

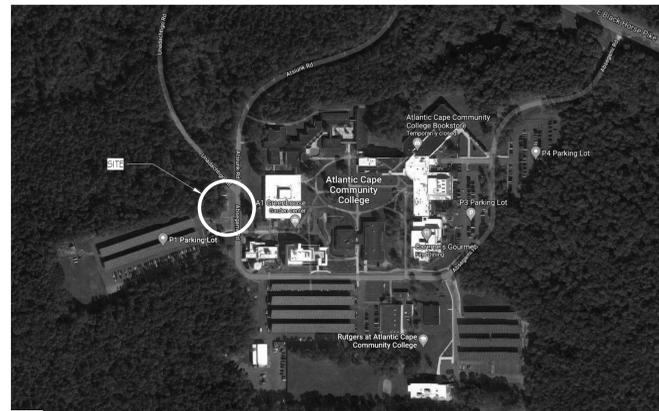
PUBLIC SAFETY BUILDING

5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

FOR THE

ATLANTIC CAPE COMMUNITY COLLEGE

5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330



CAMPUS MAP



SITE MAP

JOHNSON & URBAN, LLC
M / E / P ENGINEERS



SPIEZLE ARCHITECTURAL GROUP, INC
1395 YARDVILLE HAMILTON SQUARE ROAD
SUITE 2A
HAMILTON, NJ 08691
Phone: 609.695.7400 Fax: 609.394.2274
www.spiezle.com

CODE SUBMISSION: 08/31/2020
BID DATE: 08/31/2020

PUBLIC SAFETY BUILDING

20U008

DRAWING
NUMBER:

CS.1



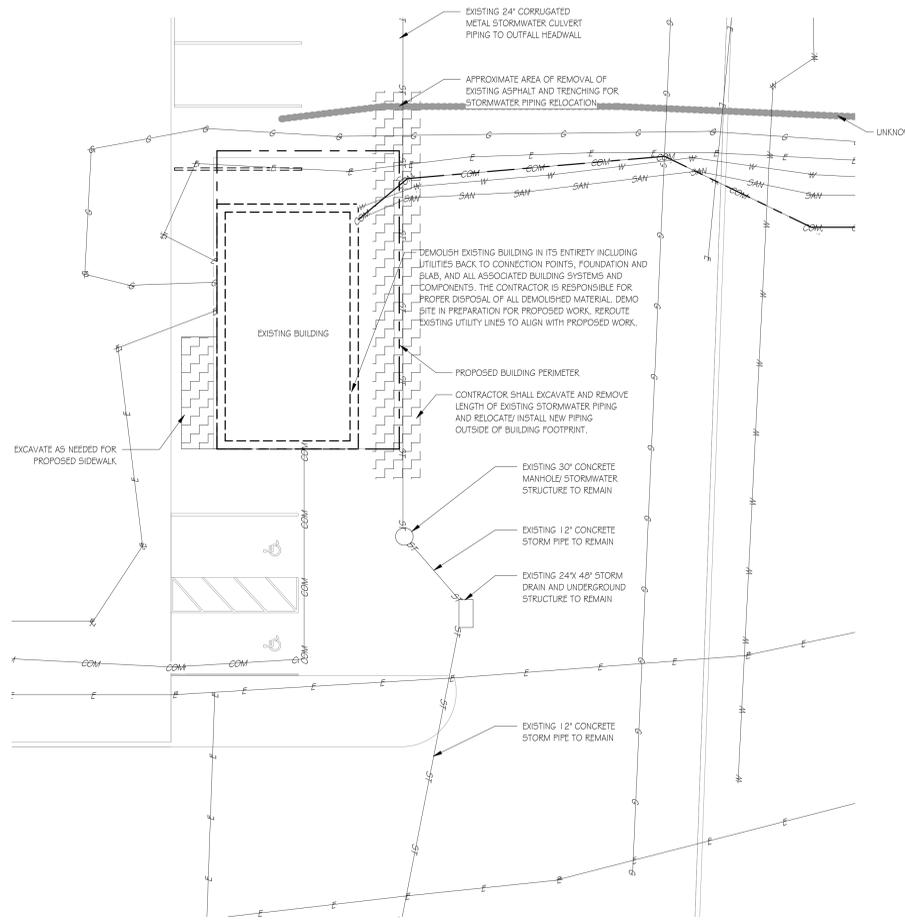
4 EXISTING PHOTO
1" = 30'-0"



5 EXISTING PHOTO
1" = 30'-0"



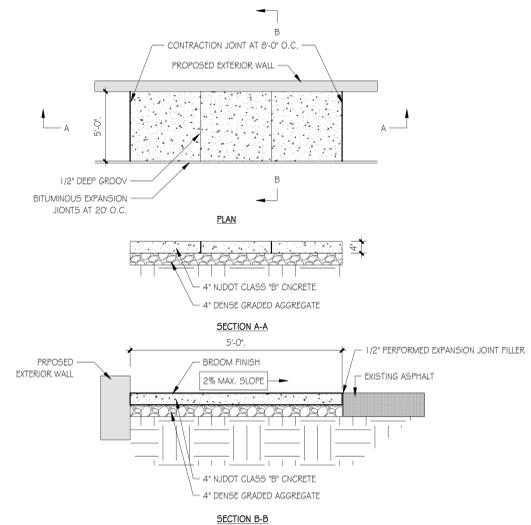
6 EXISTING PHOTO
1" = 30'-0"



1 DEMOLITION SITE PLAN
1" = 10'-0"

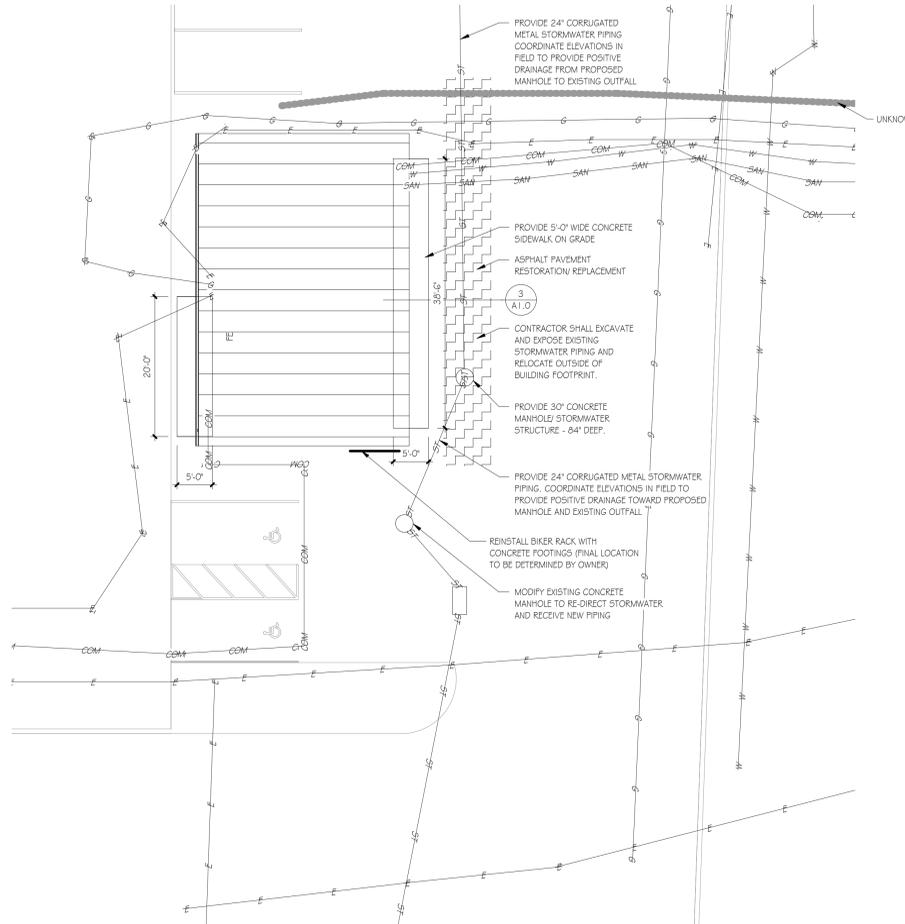
GENERAL DEMOLITION NOTES

- DEMOLITION WORK INCLUDES, BUT IS NOT LIMITED TO THE WORK INDICATED HEREWITH, AS COORDINATED WITH WORK OF ALL OTHER TRADES. AS INDICATED ELSEWHERE, AND AS REQUIRED TO ACCOMMODATE CONSTRUCTION. ALL DEMOLITION REQUIRED SHALL BE INCLUDED IN EACH CONTRACTOR'S BASE BID TO PERFORM AND COMPLETE CONSTRUCTION, UNLESS OTHERWISE INDICATED. REFER TO ASBESTOS ABATEMENT REPORT AS WELL AS MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- ALL ITEMS DESIGNATED AS SALVAGED SHALL BE PROTECTED AND TURNED OVER TO THE OWNER.
- ITEMS TO BE RELOCATED OR REINSTALLED SHALL BE AS INDICATED. SPECIAL CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THESE ITEMS. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF ALL SALVAGED ITEMS. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF ALL SALVAGED ITEMS. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF ALL SALVAGED ITEMS. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF ALL SALVAGED ITEMS.
- LOCATIONS AND/OR ELEVATIONS OF EXISTING ITEMS AS SHOWN ON THE DRAWINGS ARE APPROXIMATE. RESPECTIVE TRADES SHALL FIELD VERIFY ALL LOCATIONS.
- CONTRACTORS SHALL VERIFY ALL CONDITIONS PRIOR TO COMMENCING DEMOLITION. SHOULD QUESTIONS OR DISCREPANCIES ARISE, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT, IN WRITING, PRIOR TO PROCEEDING WITH DEMOLITION.
- CONTRACTOR(S) ARE RESPONSIBLE FOR SHORING, BRACING AND UNDERPINNING RELATED TO THE DEMOLITION, REMOVAL OR CUTTING OF ANY WALL, PARTITION, OR ANY OTHER LOAD-BEARING OR STRUCTURAL ELEMENT.



- NOTES:
- 1/2" EXPANSION JOINT FILLER INSTALLED BETWEEN THE CURB AND CONCRETE SIDEWALK AT 10' MAXIMUM SPACING, RECESS TO 1/4" FROM THE TOP OF SIDE WALK.
 - 1/2" CONSTRUCTION JOINTS INSTALLED AT AN INTERVAL OF 24 TO 30 TIME THE THICKNESS OF THE SLAB, TO A DEPTH OF 1/4 OF THE THICKNESS OF THE SLAB, RECESS TO 1/4" FROM THE TOP OF SIDEWALK, FOR THE FULL WIDTH OF THE SIDEWALK. SCORE A 1/4" GROOVED JOINT HALF WAY BETWEEN THE CONSTRUCTION JOINTS.
 - JOINT FILLER SHALL CONFORM TO AASHTO M-33. SURFACE OF CONCRETE SHALL BE BROOM FINISH. ROUND EDGES USING AN EDGING TOOL WITH A 1/4" RADIUS.
 - CONCRETE SIDEWALK SHALL BE CONSTRUCTED PER THE LATEST ADA REQUIREMENTS.

3 CONCRETE SIDEWALK DETAIL
1/2" = 1'-0"



2 S-5 SITE PLAN
1" = 10'-0"

GENERAL SITE NOTES

- EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTIONS, TEST FITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS, AND TEST SIZE. TEST FIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE UNDER SIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNER HEREON INAPPROPRIATE OR INEFFECTIVE.
- UTILITY RELOCATIONS SHOWN HERE, ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REPRESENT ALL REQUIRED UTILITY RELOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING AND/OR COORDINATING ALL REQUIRED UTILITY RELOCATIONS IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANY, AUTHORITIES AND OWNER.
- PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR IS REQUIRED TO CONTACT BOTH THE OWNER AND NEW JERSEY ONE CALL AT 1-800-272-1000 FOR A UTILITY MARKOUT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED BY THE CONSTRUCTION BACK TO THEIR ORIGINAL STATE, WHETHER INSIDE OR OUTSIDE OF THE CONSTRUCTION FENCE OR THE CONTRACT LIMIT.
- ALL CURB, SIDEWALK, ROADWAY, ASPHALT AND OTHER OFF-SITE OBJECTS DAMAGED BY CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE TO REMOVE ANY EXCESS SOIL FROM THE SITE.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE SOIL EROSION AND SEDIMENT CONTROLS STANDARDS OF NEW JERSEY.

CODE REVIEW:

CERTIFICATE:



SPIEZE ARCHITECTURAL GROUP, INC.
1395 YARDVILLE HAMILTON SQUARE ROAD
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SCOTT E. DONNE 2 (A01) 674400
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STEVEN G. SIEGEL 2 (A01) 554000
SPIEZE ARCHITECTURAL GROUP, INC. 2 (A00062000)

SEAL:

CONSULTANTS:

PROJECT:

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FOR CODE REVIEW: 08/31/2020

REVISIONS:	REVISION NAME	DATE
1		

FOR BID: 08/31/2020

DRAWING TITLE:

SITE DEMOLITION PLAN # PROPOSED PLAN

COMMISSION NUMBER:

20U008

AGENCY NUMBER:

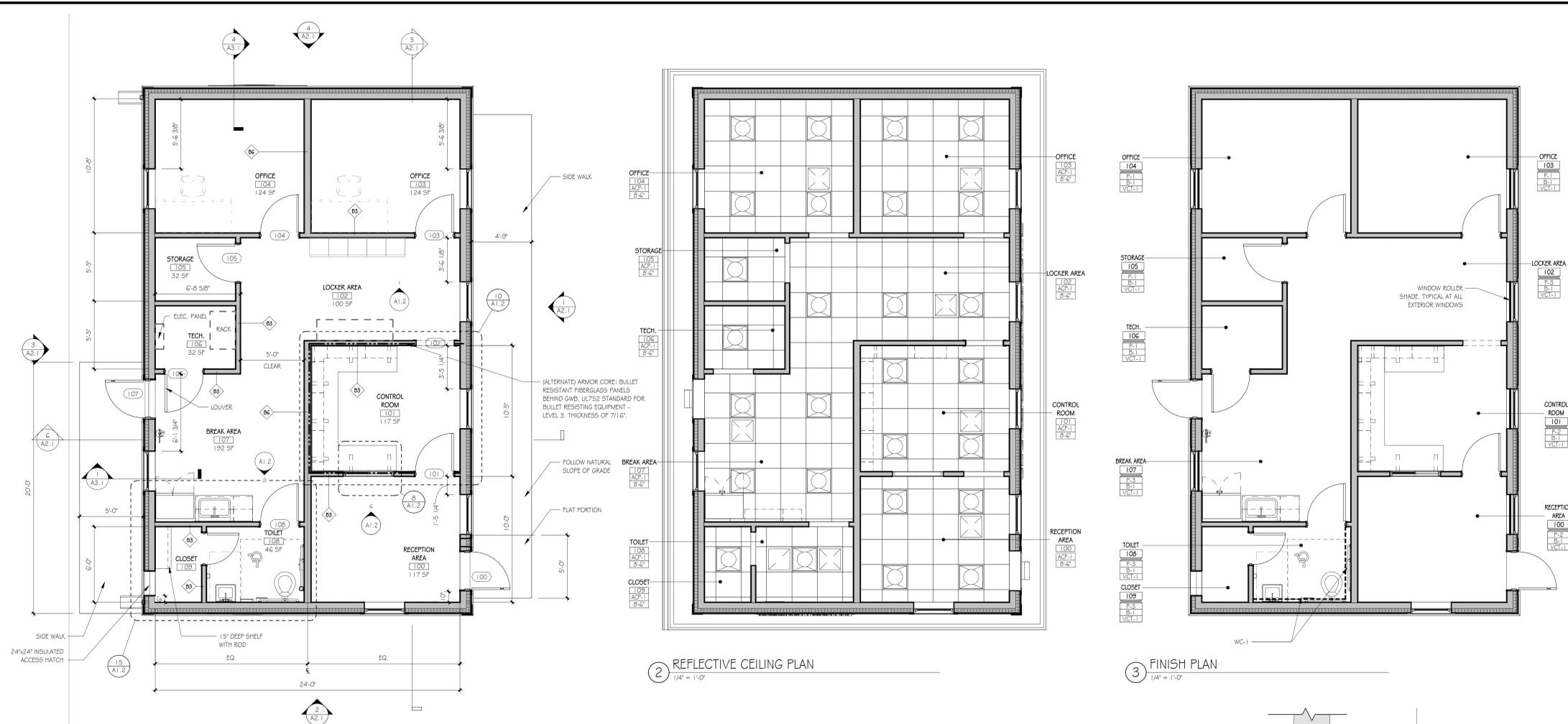
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DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:

A1.0

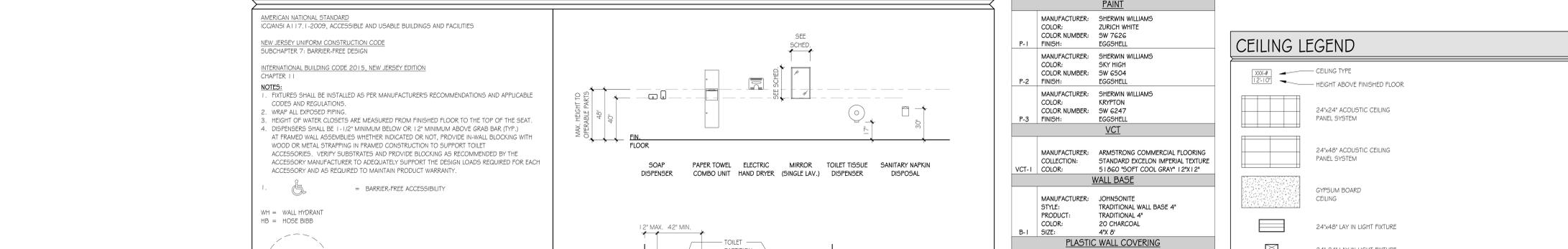




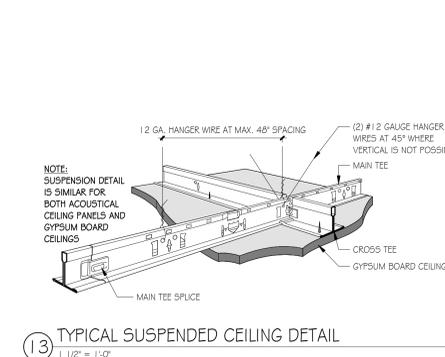
1 FLOOR PLAN
1/4" = 1'-0"



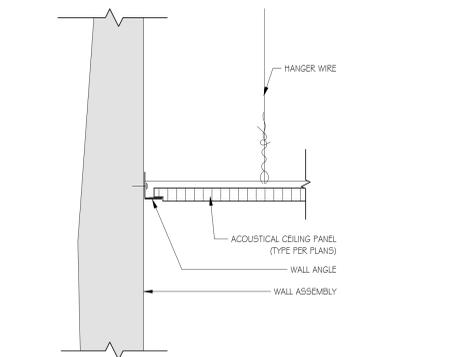
2 REFLECTIVE CEILING PLAN
1/4" = 1'-0"



3 FINISH PLAN
1/4" = 1'-0"

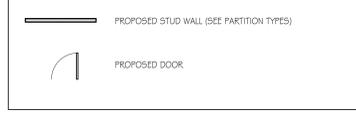


13 TYPICAL SUSPENDED CEILING DETAIL
1 1/2" = 1'-0"



14 EDGE DETAIL AT ACOUSTIC CEILING PANEL
3" = 1'-0"

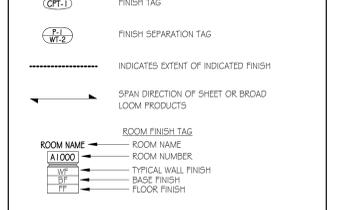
PLAN LEGEND



GENERAL NOTES

- ELEVATION AT TOP OF FINISHED FLOOR SLAB SHALL BE REFERENCED AS DATUM ELEVATION 0'-0".
- DO NOT SCALE THE DRAWINGS. IF A DIMENSION IS UNCLEAR OR A DISCREPANCY IS FOUND IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO THE COMMENCEMENT OF WORK. WHERE FABRICATION IS REQUIRED, DIMENSIONS SHALL BE VERIFIED PRIOR TO THE PRODUCTION OF SHOP DRAWINGS.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, STATUTES, AND REGULATIONS IN PERFORMANCE OF THE WORK.
- DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN A SIMILAR MANNER OR BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION. MODIFICATIONS MAY BE REQUIRED BY THE CONTRACTOR TO ACCOMMODATE FOR MINOR VARIATIONS IN THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND INSTALLATION OF OWNER SUPPLIED EQUIPMENT AS IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, INCLUDING THE RELOCATION OF EXISTING EQUIPMENT.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UNDERGROUND UTILITIES AND COORDINATING WITH NEW WORK. ADVISE ARCHITECT/ENGINEER OF CONFLICTS PRIOR TO COMMENCEMENT OF WORK.
- ALL GRABINGS SHALL SLOPE AWAY FROM THE BUILDING.
- PRIOR TO POURING OF CONCRETE FOOTINGS, THE CONCRETE REINFORCEMENT STEEL SHALL BE GROUNDED AND BONDED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) SECTION 250-50. A CONDUCTIVE REINFORCING BAR MEASURING AT LEAST 1/2" IN DIAMETER AND A MINIMUM OF 20 FEET IN LENGTH THAT IS ENCASED IN A MINIMUM OF 2" CONCRETE COVER SHALL SURFACE FOR USE AS AN ELECTRODE.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE PROJECT AND SCHEDULING OF THE WORK CONDUCTED BY OTHER TRADES.
- THE CONTRACTOR SHALL CONSTRUCT CHASES AND/OR RECESSES AS SHOWN, AND AS REQUIRED TO CONCEAL THE WORK OF OTHER TRADES AS DIRECTED BY THE ARCHITECT TO MATCH ADJACENT CONSTRUCTION, REGARDLESS IF SHOWN ON THE DRAWINGS.
- ALL WALL AND FLOOR PENETRATIONS SHALL BE PATCHED AND SEALED BY THEIR RESPECTIVE TRADES.
- ALL FLOOR PENETRATIONS FOR PIPING AND CONDUIT SHALL BE SLEEVED AND SEALED.
- PARTITIONS SHALL BE LAID OUT STARTING FROM CONDITIONS WHERE ALIGNMENT WITH EXISTING CONSTRUCTION IS SHOWN, UNLESS OTHERWISE NOTED. DIMENSIONS ARE TAKEN TO THE FACE OF WALL/PARTITIONS.
- WALLS OVERLAPPING COLUMN LINES SHALL BE ASSUMED CENTERED ON THE COLUMN UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL FURNISH AND INSTALL BLOCKING IN FRAMED WALL ASSEMBLIES WHERE WALL MOUNTED ACCESSORIES, CABINETS OR OTHER ACCESSORIES ARE INDICATED.
- REFER TO ROOM FINISH LEGEND AND PROJECT SPECIFICATIONS FOR FINISH REQUIREMENTS.

GENERAL FINISH NOTES:

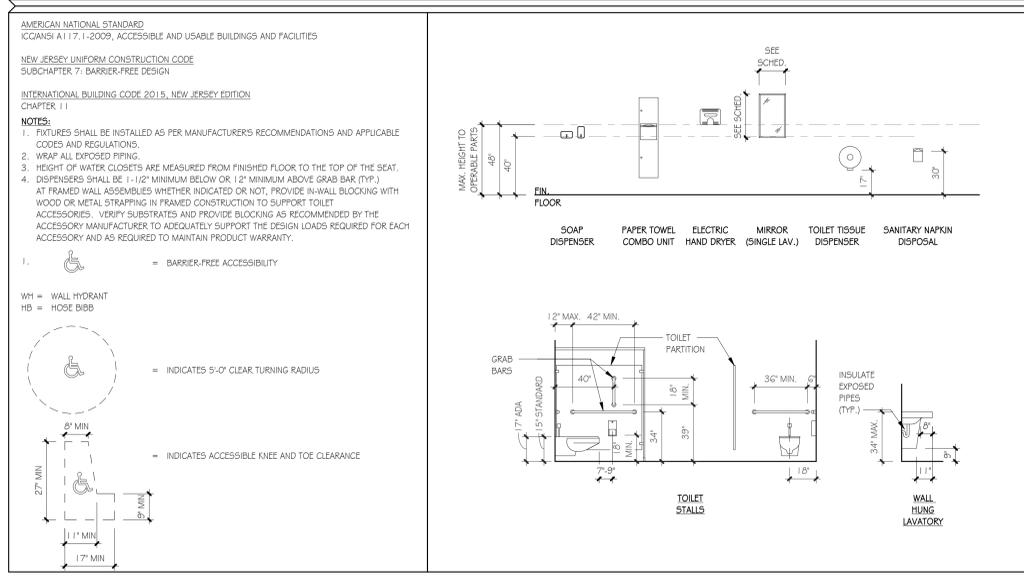


- NOTES PERTAIN TO AREAS WITHIN THIS SCOPE OF WORK ONLY.
- CONTACT INTERIOR DESIGNER/ARCHITECT FOR CLARIFICATION IN THE EVENT OF CONTRADICTORY INFORMATION BETWEEN DRAWINGS, LEGEND AND/OR SPECIFICATIONS OR IF COLOR AND/OR FINISH IS NOT SPECIFIED.
- THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL SITE CONDITIONS AND CONFIRM QUANTITIES PRIOR TO ORDERING PRODUCTS. IN THE EVENT OF CONTRADICTORY INFORMATION CONTACT THE INTERIOR DESIGNER/ARCHITECT FOR CLARIFICATION PRIOR TO ORDERING.
- ALL MATERIALS SHALL BE INSTALLED USING MANUFACTURERS RECOMMENDED INSTALLATION METHODS AND ADHESIVES.
- ALL SUBSTRATE SURFACES ARE TO BE PROPERLY PREPARED TO RECEIVE FINISH MATERIALS. SUBCONTRACTOR IS NOT TO APPLY FINISHES UNTIL SUBSTRATE IS PREPARED PER MANUFACTURERS WRITTEN INSTRUCTIONS FOR ALL INSTALLATIONS OR APPLICATIONS.
- PAINT GRILLS, WALL DIFFUSERS, ELECTRICAL PANELS, WALL MOUNTED BOXES, ACCESS PANELS, ETC., WHICH ARE DROPPED IN FINISHED SPACES TO MATCH THE SURFACE ON WHICH THEY OCCUR IF THE ITEM IS ON A WALL-COVERED WALL. PROVIDE A CUSTOM PAINT COLOR USED TO MATCH. SUBMIT TO INTERIOR DESIGNER/ARCHITECT FOR APPROVAL.
- ALL WALL PAINT TO BE EGGSHELL FINISH UNON.
- ALL METAL AND PAINTED TRIM TO BE SEMI-GLOSS ENAMEL FINISH UNON.
- ALL VINYL/RUBBER BASE TO BE ROLLED GOODS, NOT LINEAR 4' LENGTHS, UNON.
- FINISHES INDICATED ON 'ROOM FINISH TAG' ARE INCLUSIVE OF ALL RESPECTIVE SURFACES IN ROOM UNLESS OTHERWISE NOTED) WHETHER OR NOT INDICATED ON PLANS OR ELEVATIONS.

FLOOR FINISH NOTES:

- INSTALL DIRECTIONAL FLOORING ORIENTED AS SPECIFIED IN THE FINISH PLAN.
- REFERENCE MANUFACTURERS INSTALLATION SPECIFICATIONS FOR EACH FLOOR FINISH TYPE TO VERIFY REQUIREMENTS.
- ALIGN TRANSITION OF FLOOR MATERIAL WITH CENTER OF HINGE IN DOORWAY UNON.
- IN A WALL OPENING WITHOUT HINGES REFER TO FINISH PLANS FOR TRANSITION LOCATION OF WRAPPED MATERIALS.
- FLASH PATCH THE FLOOR AT TRANSITION OF ALL MATERIALS. PROVIDE TRANSITION STRIPS AS NECESSARY. SUBMIT TRANSITIONS TO INTERIOR DESIGNER/ARCHITECT FOR APPROVAL. ALL FLOORING TRANSITIONS MUST ADHERE TO THE AMERICANS WITH DISABILITIES ACT.

ACCESSIBILITY DESIGN STANDARDS AND STANDARD MOUNTING HEIGHTS

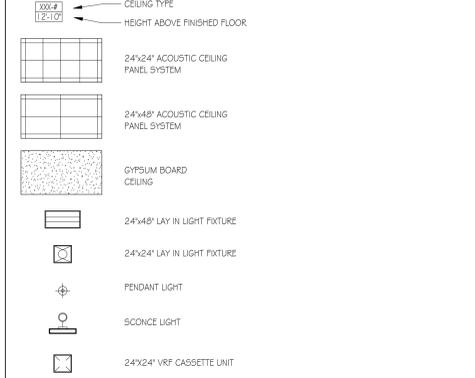


9 PLUMBING FIXTURE AND ACCESSORY MOUNTING HEIGHTS
1/4" = 1'-0"

INTERIOR FINISH LEGEND

PAINT	
P-1	MANUFACTURER: SHERWIN WILLIAMS COLOR: ZURICH WHITE COLOR NUMBER: SW 7626 FINISH: EGGSHELL
P-2	MANUFACTURER: SHERWIN WILLIAMS COLOR: SKY HIGH COLOR NUMBER: SW 6504 FINISH: EGGSHELL
P-3	MANUFACTURER: SHERWIN WILLIAMS COLOR: KRYPTON COLOR NUMBER: SW 6247 FINISH: EGGSHELL
VCTI	
VCT-1	MANUFACTURER: ARMSTRONG COMMERCIAL FLOORING COLLECTION: STANDARD EXCELON IMPERIAL TEXTURE COLOR: 51 060 "SOFT COOL GRAY" 12X12"
WALL BASE	
B-1	MANUFACTURER: JOHNSONITE STYLE: TRADITIONAL 4" PRODUCT: 20 CHARCOAL COLOR: 4X 8'
PLASTIC WALL COVERING	
WC-1	MANUFACTURER: ACROVYN PRODUCT: WALL COVERING COLOR: PEARL NUMBER: 934
SOLID SURFACE	
SS-1	MANUFACTURER: WILSONART PRODUCT: SOLID SURFACE COLOR: ZEN GRAY NUMBER: 911 150S (S) SIZE: 1" THICK
PLASTIC LAMINATE	
PL-1	MANUFACTURER: WILSONART PRODUCT: BRAZILWOOD COLOR NUMBER: 7946-30

CEILING LEGEND



- NOTES:**
- INCLUSION OF SYMBOL IN LEGEND DOES NOT IMPLY SCOPE OF WORK. REFER TO PLANS.
 - CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF FIXTURES AND OTHER CEILING DEVICES.
 - REFER TO MEIP DRAWINGS FOR SIZES, TYPES, QUANTITIES AND INSTALLATION REQUIREMENTS OF FIXTURES AND CEILING DEVICES.
 - WHERE CEILING HEIGHTS ARE BELOW WINDOW HEADS THE CONTRACTOR SHALL PROVIDE FASCIA MOLDING OR TRIM TO MATCH SIZE AND COLOR OF CEILING TRIM.

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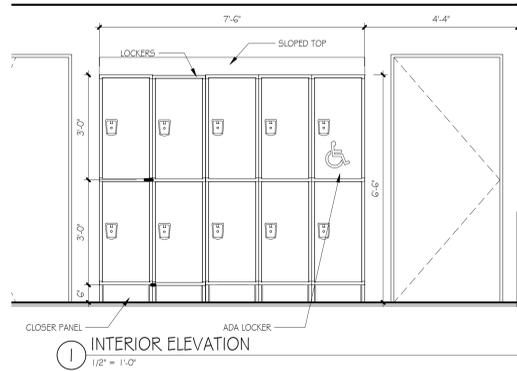
DRAWING TITLE:
PLANS, ENLARGED PLAN, INTERIOR ELEVATIONS

COMMISSION NUMBER:
20U008

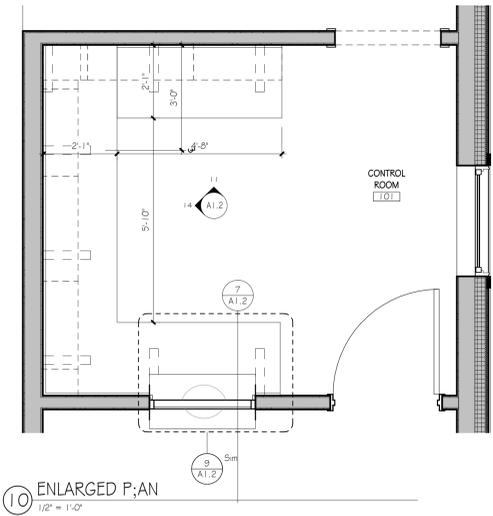
AGENCY NUMBER:
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DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:
A1.1

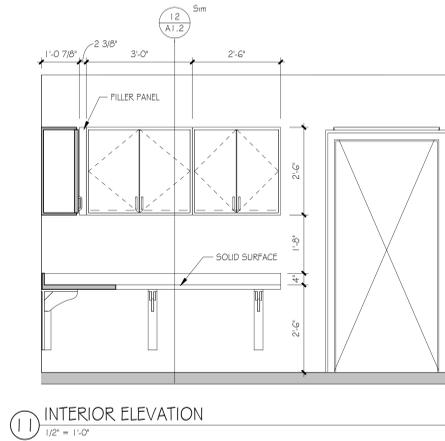
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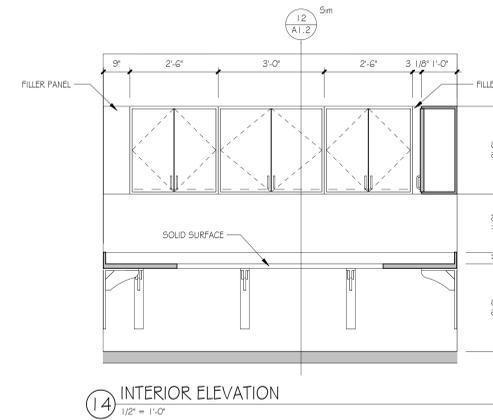
1 INTERIOR ELEVATION
1/2" = 1'-0"



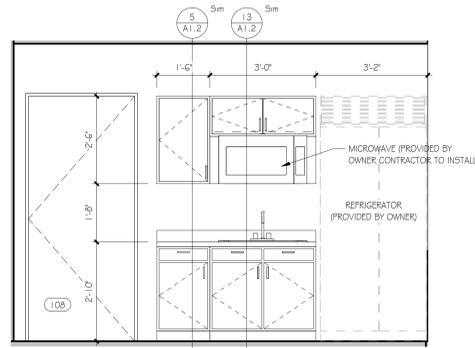
10 ENLARGED PLAN
1/2" = 1'-0"



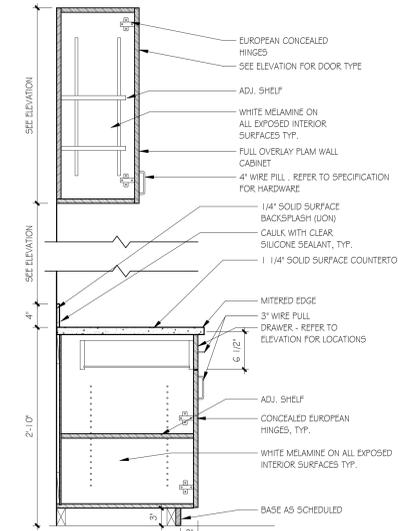
11 INTERIOR ELEVATION
1/2" = 1'-0"



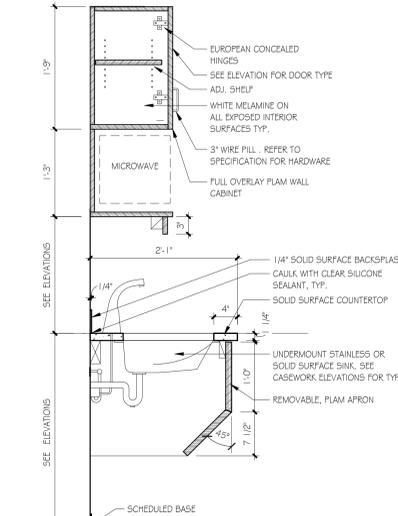
14 INTERIOR ELEVATION
1/2" = 1'-0"



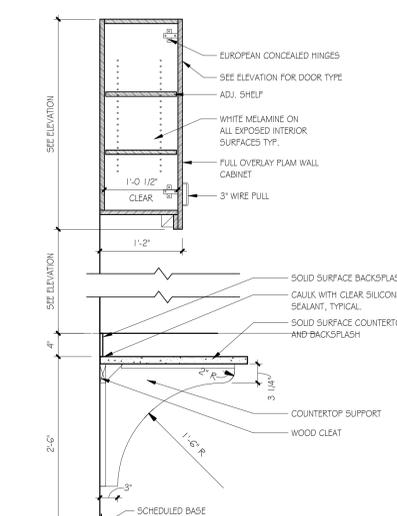
2 INTERIOR ELEVATION
1/2" = 1'-0"



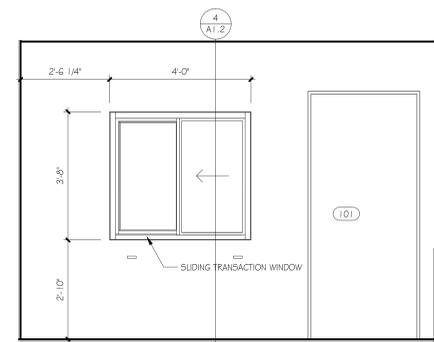
5 CASEWORK SECTION
1" = 1'-0"



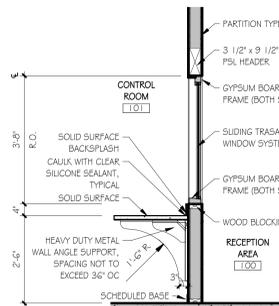
13 CASEWORK SECTION
1" = 1'-0"



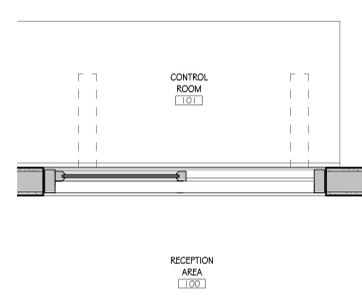
12 CASEWORK SECTION
1" = 1'-0"



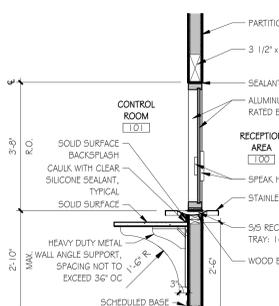
3 INTERIOR ELEVATION
1/2" = 1'-0"



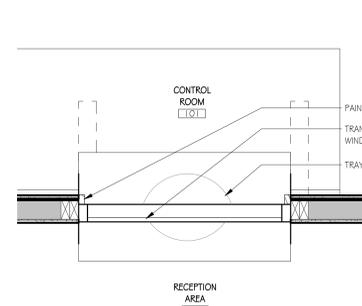
4 SECTION
1/2" = 1'-0"



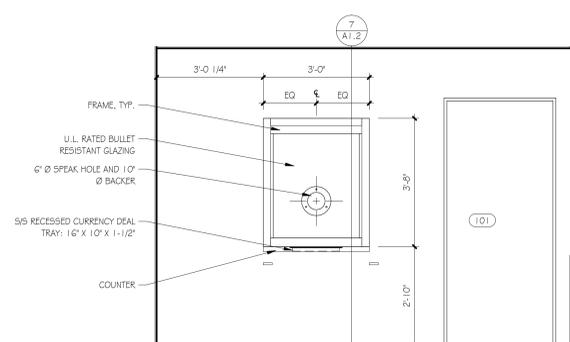
8 ENLARGED PLAN
1" = 1'-0"



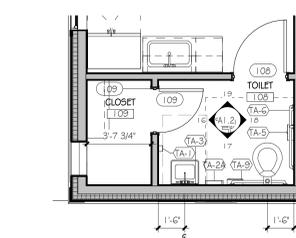
7 SECTION (ALTERNATE)
1/2" = 1'-0"



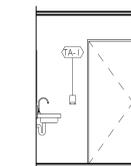
9 ENLARGED PLAN (ALTERNATE)
1" = 1'-0"



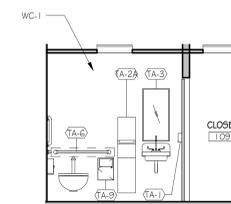
6 INTERIOR ELEVATION (ALTERNATE)
1/2" = 1'-0"



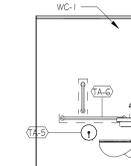
15 ENLARGED PLAN
1/4" = 1'-0"



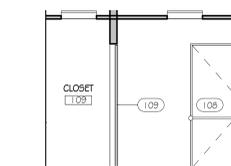
16 TOILET ELEVATION
1/4" = 1'-0"



17 TOILET ELEVATION
1/4" = 1'-0"



18 TOILET ELEVATION
1/4" = 1'-0"



19 TOILET ELEVATION
1/4" = 1'-0"

TOILET ACCESSORY LEGEND							
	DESCRIPTION	MOUNTING TYPE	MANUF.	MODEL #	FURNISHED BY	INSTALLED BY	COMMENTS
TA-1	SOAP DISPENSER	SURFACE	BOBRICK	B-2111	CONTRACTOR	CONTRACTOR	
TA-2A	SANITARY WASTE RECEPTACLE AND PAPER TOWEL DISPENSER	SURFACE	BOBRICK	B-43944	CONTRACTOR	CONTRACTOR	
TA-3	LAVATORY MIRROR	SURFACE	BRADLEY	781-2436-4	CONTRACTOR	CONTRACTOR	
TA-5	JUMBO-ROLL TOILET TISSUE DISPENSER	SURFACE	BOBRICK	B-2890	CONTRACTOR	CONTRACTOR	
TA-6	STAINLESS STEEL GRAB BAR SET (WATER CLOSET)	SURFACE	BOBRICK	B-5906.99 x 36" (H) B-5906.99 x 42" (H) B-5906.99 x 18" (V)	CONTRACTOR	CONTRACTOR	
TA-9	TA-11 SANITARY WASTE RECEPTACLE	SURFACE	BOBRICK	B-254	CONTRACTOR	CONTRACTOR	

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SUITE 2A
HAMILTON, NJ 08691
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SIGNATURE:
THOMAS S. PERRINO 2/1/2020
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STEVEN LEDGE 2/1/2020
STEVEN G. SIEGEL 2/1/2020
SPIEZE ARCHITECTURAL GROUP, INC. 2/1/2020

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5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

FOR CODE REVIEW: 08/31/2020

REVISIONS:	REVISION NAME	DATE
A		

FOR BID: 08/31/2020

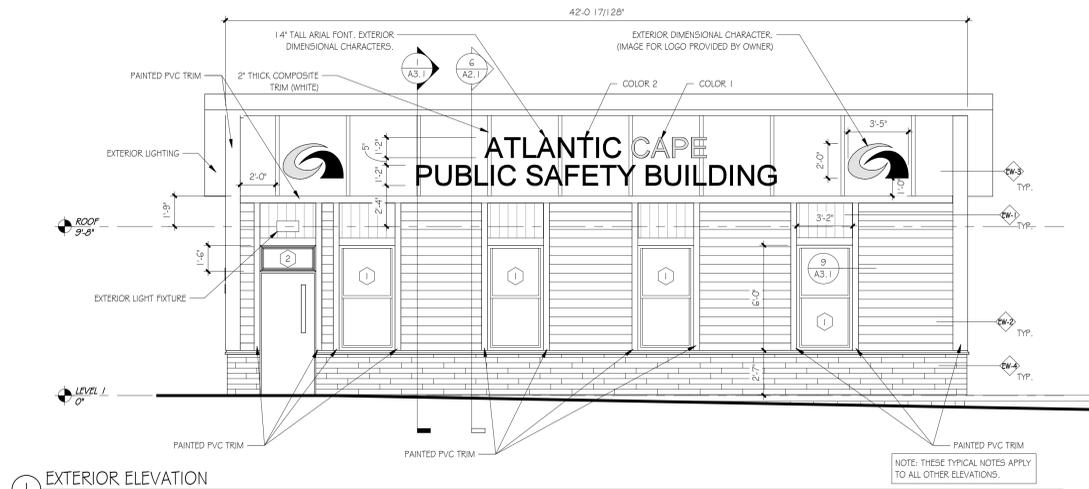
DRAWING TITLE:

INTERIOR ELEVATIONS

COMMISSION NUMBER:
20U008

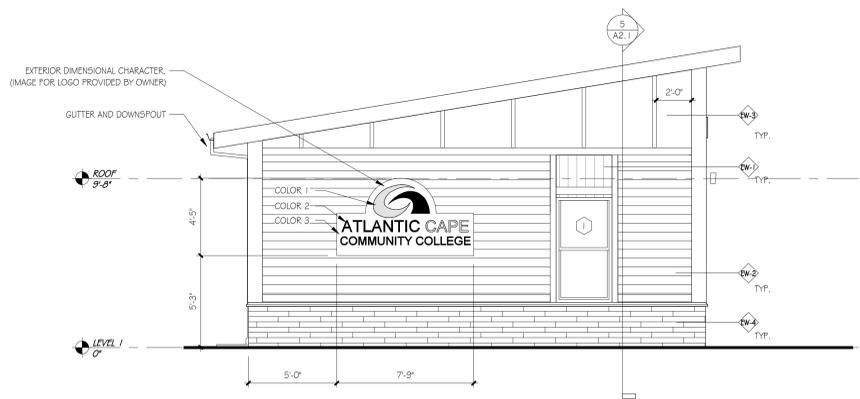
AGENCY NUMBER:
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DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:
A1.2



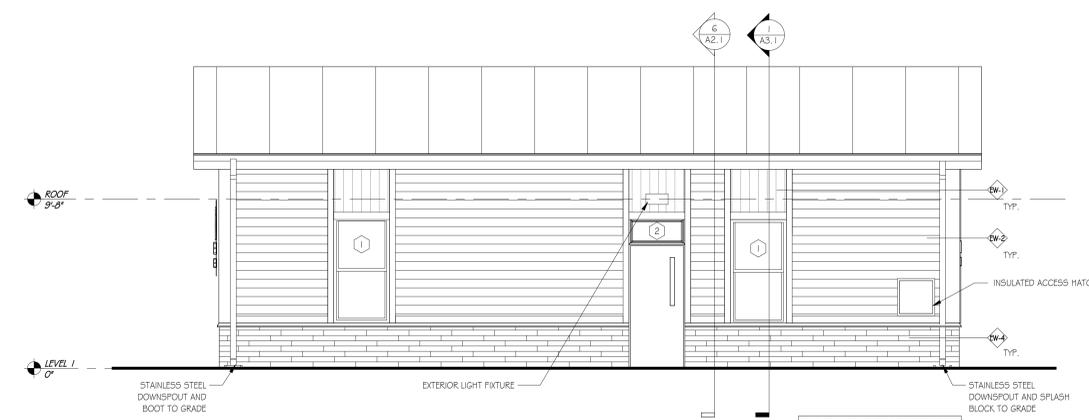
1 EXTERIOR ELEVATION
1/4" = 1'-0"

NOTE: THESE TYPICAL NOTES APPLY TO ALL OTHER ELEVATIONS.



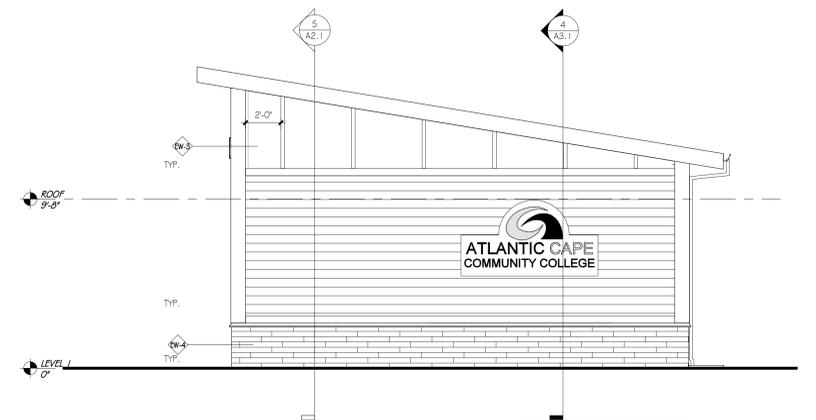
2 EXTERIOR ELEVATION
1/4" = 1'-0"

NOTE: REFER TO ELEVATION 1/A2.1 FOR SIMILAR NOTES NOT SHOWN HERE.



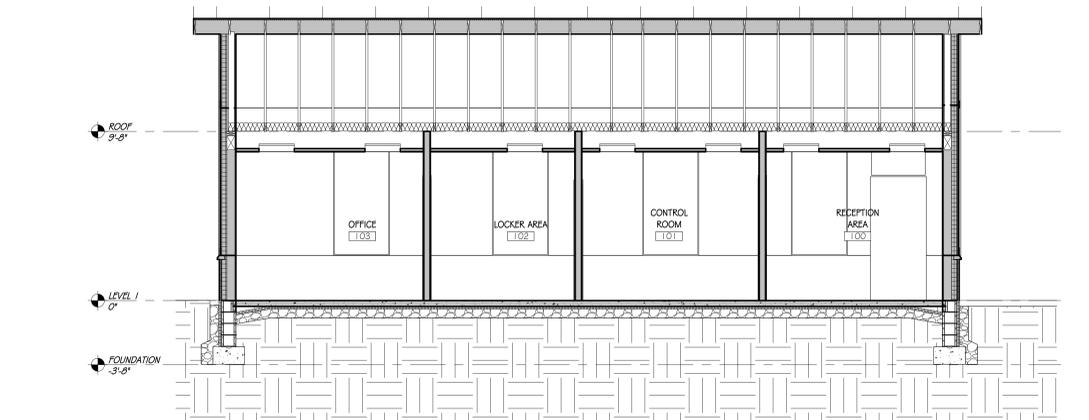
3 EXTERIOR ELEVATION
1/4" = 1'-0"

NOTE: REFER TO ELEVATION 1/A2.1 FOR SIMILAR NOTES NOT SHOWN HERE.

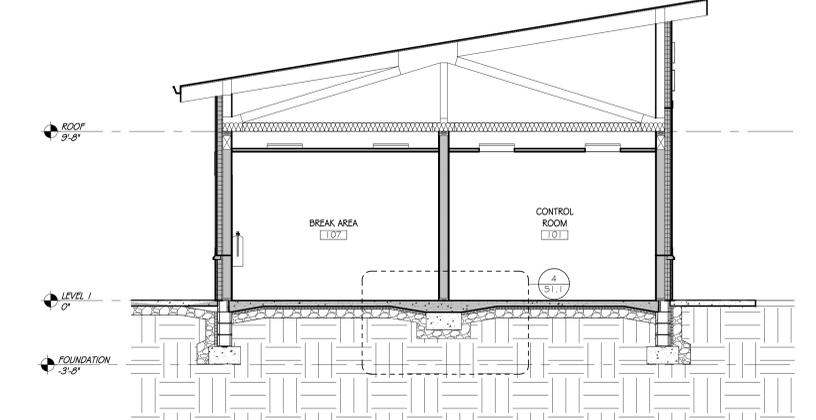


4 EXTERIOR ELEVATION
1/4" = 1'-0"

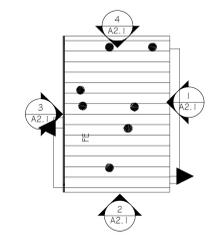
NOTE: REFER TO ELEVATION 1/A2.1 FOR SIMILAR NOTES NOT SHOWN HERE.



5 BUILDING SECTION
1/4" = 1'-0"



6 BUILDING SECTION
1/4" = 1'-0"



7 A2 - KEY PLAN
1" = 20'-0"

CODE REVIEW:

CERTIFICATE:



SPIEZE ARCHITECTURAL GROUP, INC.
1395 YARDVILLE HAMILTON SQUARE ROAD
SUITE 2A
HAMILTON, NJ 08691
Phone: 609-695-7400

SIGNATURE:
THOMAS S. PERRINO 2/A01 200400
SCOTT S. DONNE 2/A01 174400
STEVEN L. LORGE 2/A01 170100
STEVEN G. SIEGEL 2/A01 154800
SPIEZE ARCHITECTURAL GROUP, INC. 2/A00062000

SEAL:

CONSULTANTS:

PROJECT:

PUBLIC SAFETY BUILDING

5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

FOR

ATLANTIC CAPE COMMUNITY COLLEGE
5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

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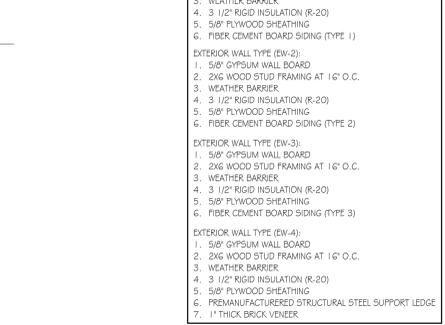
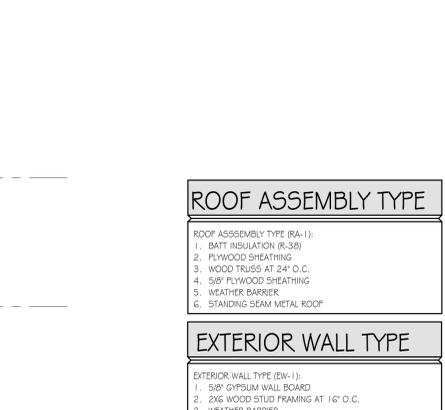
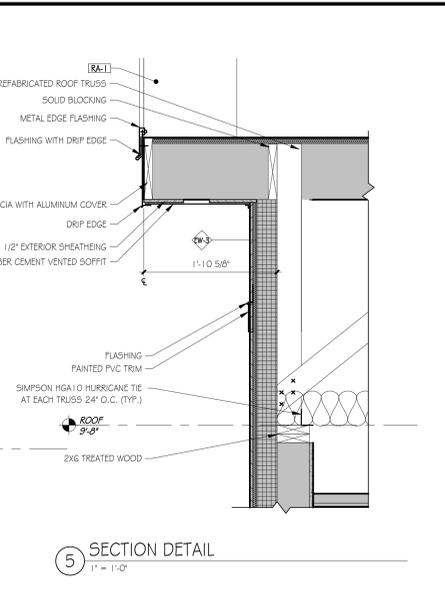
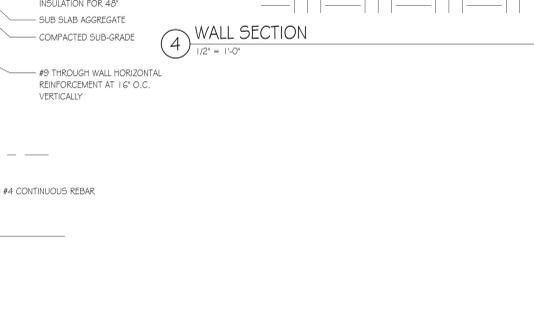
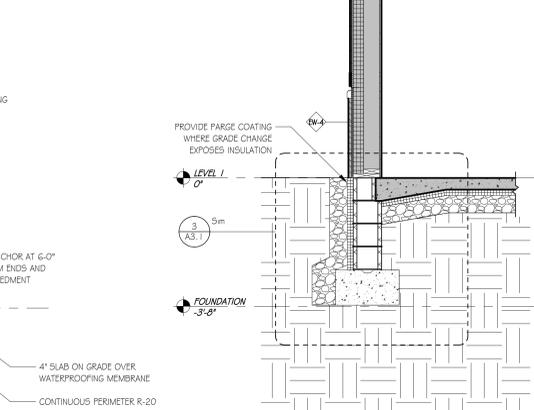
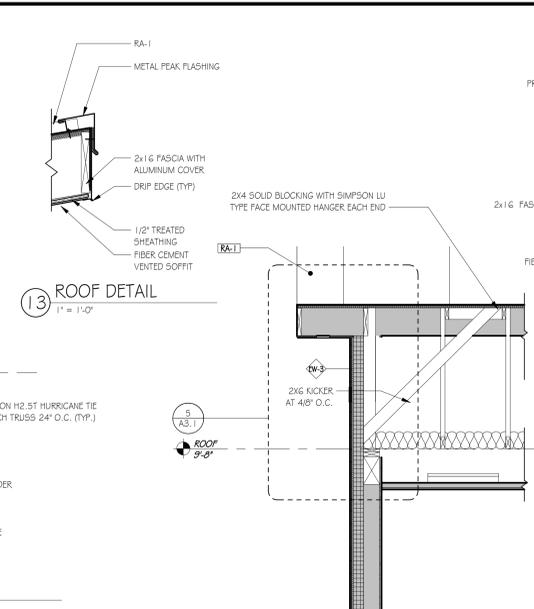
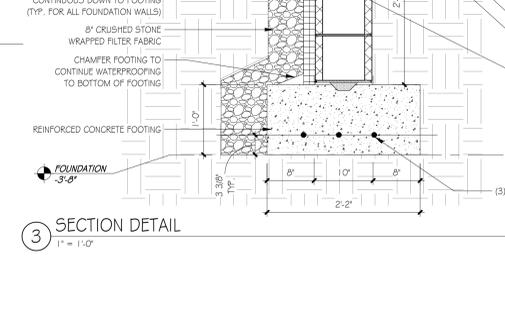
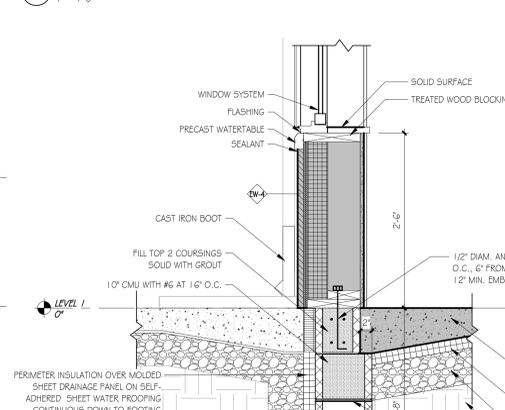
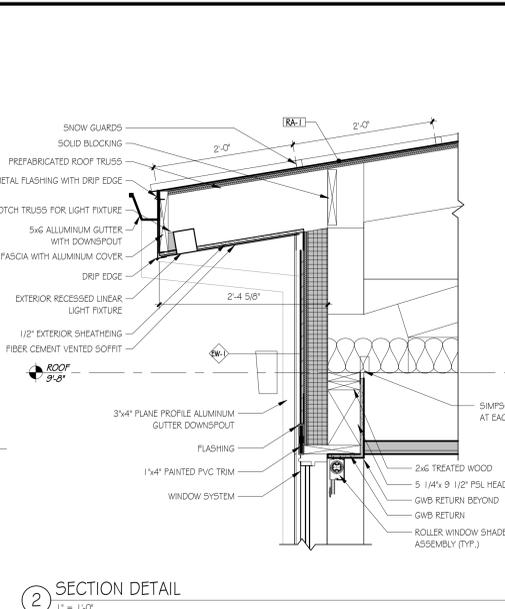
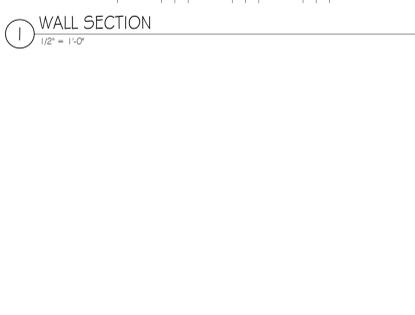
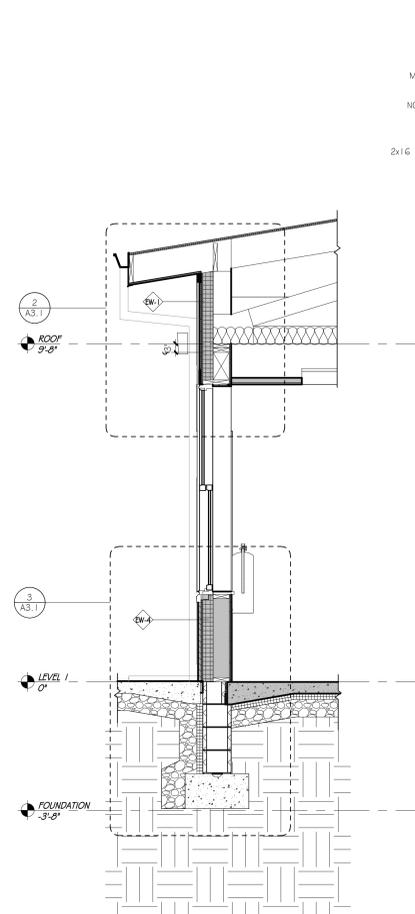
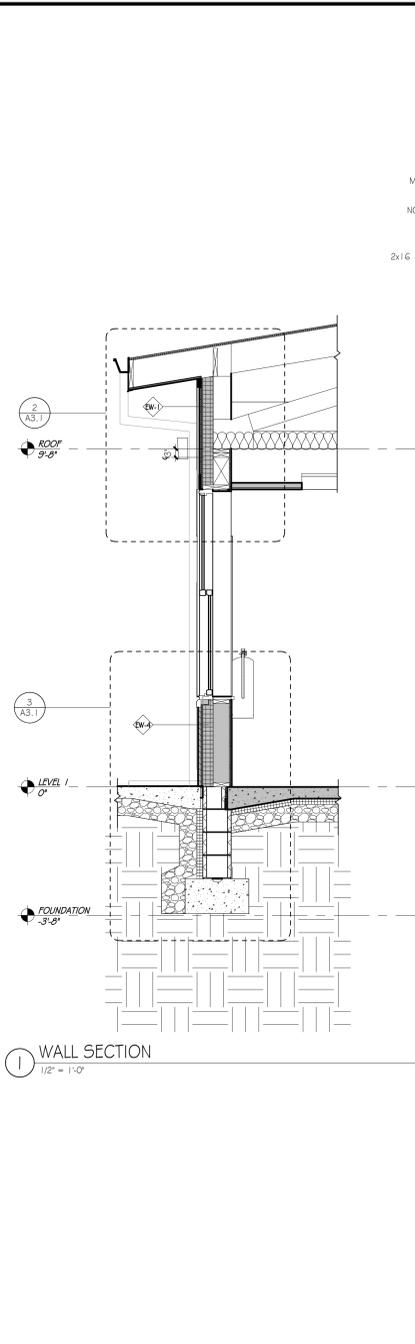
DRAWING TITLE:
EXTERIOR ELEVATION, SECTIONS AND DETAILS

COMMISSION NUMBER:
20U008

AGENCY NUMBER:
##-###-##
DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:
A2.1

Vertical scale bars on the left side of the drawing, ranging from 1/16" = 1'-0" to 3/8" = 1'-0".

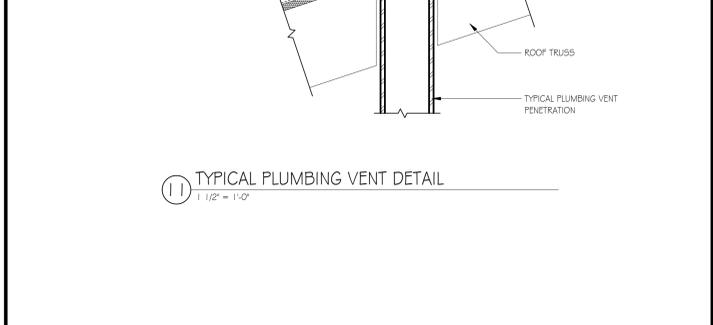
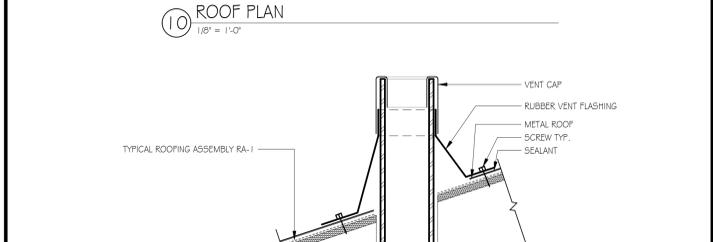
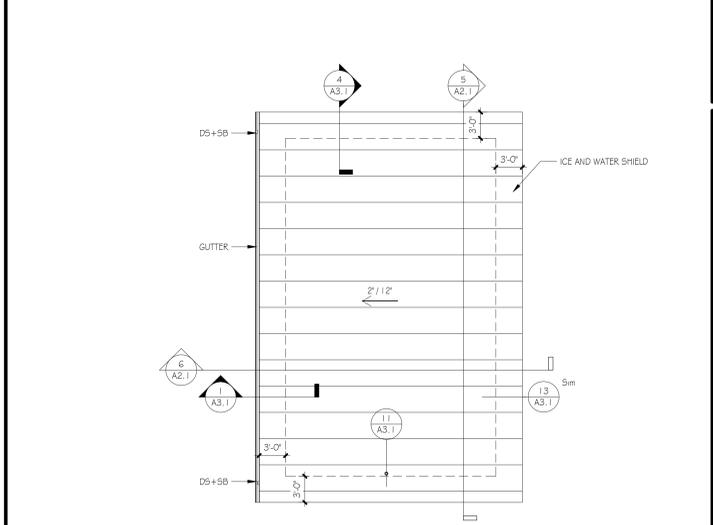


ROOF LEGEND:

	CRICKET - SLOPE TO DRAIN (TYPICAL)
	DETAIL NUMBER
	DRAWING NUMBER
	EXHAUST FAN
	ROOF VENT
	DOWN SPOUT
	PLUMBING VENT

- GENERAL ROOFING NOTES**
- SEE ROOF PLAN FOR DESIGNATION OF SPECIFIC ROOF ASSEMBLY TYPES.
 - ALL WOOD BLOCKING AND PLYWOOD SHEATHING SHALL BE PRESSURE TREATED, UNLESS OTHERWISE NOTED. ALL PLYWOOD SHEATHING SHALL BE A MINIMUM OF 1/2" THICK.
 - MAINTAIN CONSTANT ROOF EDGE ELEVATIONS ACROSS THE SAME HORIZONTAL PLANE.
 - INSULATE ALL HORIZONTAL ROOF DRAINAGE PIPING.
 - PROVIDE CONCRETE SPLASHBLOCKS AT ALL DOWNSPOUTS AND CONDENSATE PIPING LOCATIONS.
 - THE CONTRACTOR SHALL COORDINATE LOCATIONS OF DOWNSPOUT LEADERS WITH WINDOW LOCATIONS AND OTHER BUILDING FEATURES. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO INSTALLATION.
 - WHETHER INDICATED OR NOT ON THE DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FLASHING ALL ROOFTOP EQUIPMENT AND PENETRATIONS PER THE DETAILS AND/OR ROOFING MANUFACTURER'S REQUIREMENTS, WHICHEVER IS STRICTER.
 - THE CONTRACTOR IS RESPONSIBLE FOR ALL DISCONNECT, EXTENSION, TEMPORARY RELOCATION AND RECONNECTION OF UTILITIES THAT MAY BE NECESSARY TO FACILITATE THE WORK. COORDINATE ALL UTILITY INTERRUPTIONS AND SHUTDOWNS WITH THE OWNER AND ARCHITECT PER THE SPECIFICATIONS.

CODE REVIEW:



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SUITE 2A
HAMILTON, NJ 08691
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STEVEN G. SEIGEL 2 IAD1 154800
SPIZLE ARCHITECTURAL GROUP, INC. 2 IAC00063000

SCALE:

CONSULTANTS:

PROJECT:

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FOR

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REVISIONS:

NO.	REVISION NAME	DATE
1		

FOR BID: 08/31/2020

DRAWING TITLE:

WALL SECTIONS AND DETAILS

COMMISSION NUMBER: 20U008

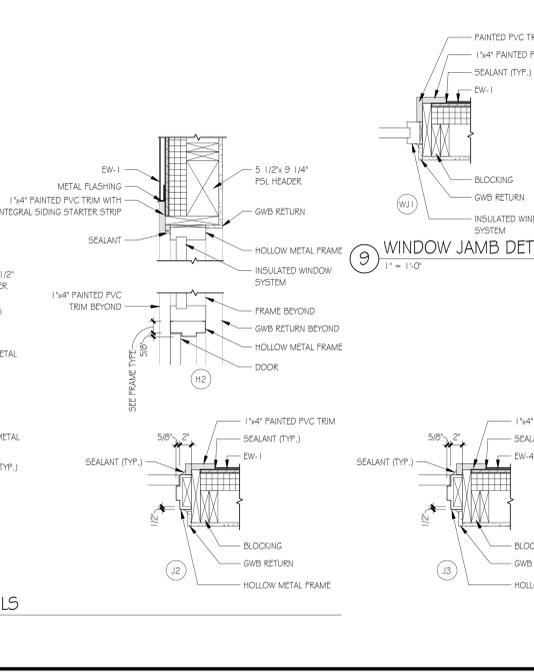
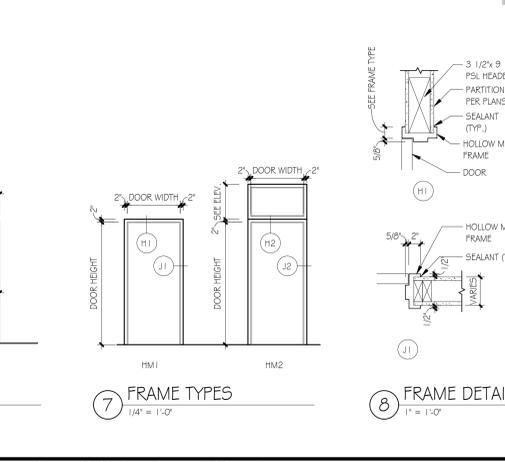
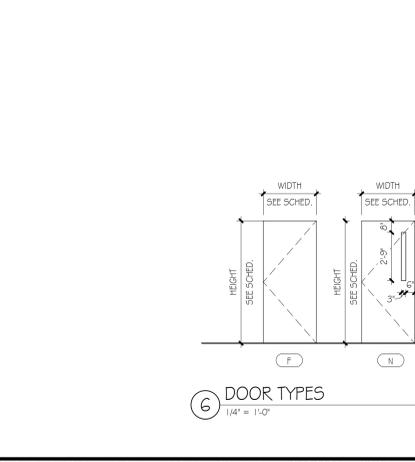
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DO NOT SCALE THE DRAWINGS

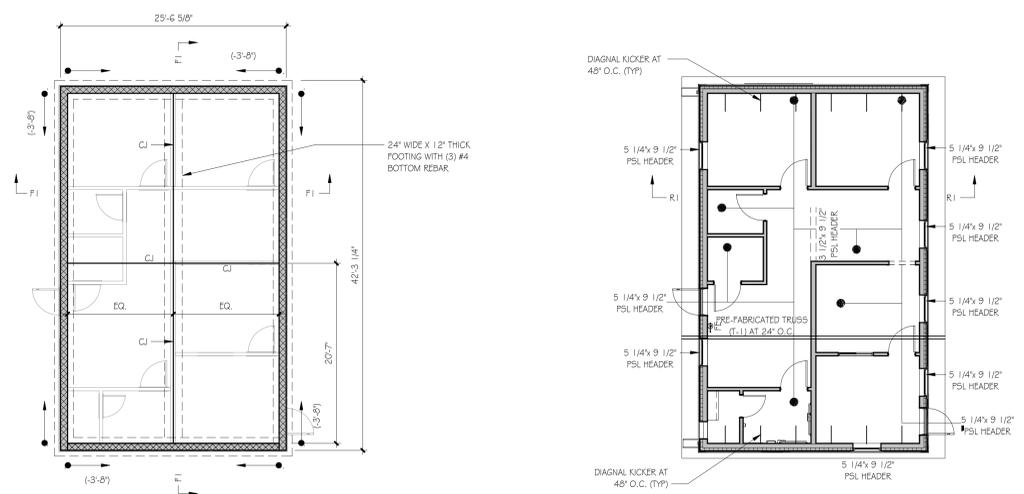
DRAWING NUMBER: A3.1

DOOR AND FRAME SCHEDULE

MARK	LOCATION	WIDTH(s)	HEIGHT	DOOR TYPE	MATERIAL	FRAME TYPE	RATING (MINS)	HARDWARE SET	REMARKS
100	RECEPTION AREA	3'-0"	7'-0"	N	Steel	HM2	-	1.0	CARD ACCESS
101	RECEPTION AREA	3'-0"	7'-0"	F	Steel	HM1	-	7.0	CARD ACCESS
102	CONTROL ROOM	3'-0"	7'-0"	N/A	WD	HM1	-	N/A	FRAMED OPENING
103	OFFICE	3'-0"	7'-0"	F	WD	HM1	-	4.0	
104	BREAK AREA	3'-0"	7'-0"	F	WD	HM1	-	4.0	
105	STORAGE	3'-0"	7'-0"	F	WD	HM1	-	5.0	
106	TECH.	3'-0"	7'-0"	F	WD	HM1	-	3.0	
107	BREAK AREA	3'-0"	7'-0"	N	Steel	HM2	-	1.0	CARD ACCESS
108	TOILET	3'-0"	7'-0"	F	WD	HM1	-	6.0	
109	TOILET	2'-6"	7'-0"	F	WD	HM1	-	2.0	



- DOOR AND FRAME NOTES**
- OPENING FORCE OF INTERIOR NON-RATED DOORS SHALL BE NO GREATER THAN 5 LBS.
 - OPENING FORCE OF FIRE RATED DOORS SHALL BE NO GREATER THAN 8 LBS.
 - ALL EXTERIOR GLAZING IN NON-RATED WALL AND DOOR ASSEMBLIES SHALL BE MINIMUM 1" INSULATED GLAZING. REFER TO SPECIFICATIONS FOR GLAZING TYPES.
 - PAINT ALL EXPOSED STEEL (COLOR AS SELECTED BY ARCHITECT).
 - PROVIDE COMPATIBLE FLASHING MATERIALS BETWEEN DISSIMILAR MATERIALS SUCH AS STEEL TO ALUMINUM.
 - SHIM ASSEMBLIES AS REQUIRED FOR PLUMB AND LEVEL. PROVIDE SEALANT AND BACKER RODS AT ALL JOINTS BETWEEN WINDOW SYSTEMS, DOOR FRAMES AND OTHER SURROUNDING CONSTRUCTION.
 - ALUMINUM WINDOW AND ENTRANCE FRAMES SHALL NOT BE INSTALLED IN DIRECT CONTACT WITH DISSIMILAR BUILDING MATERIALS.
 - THE MINIMUM LATCH SIDE CLEARANCE BETWEEN THE EDGE OF DOOR AND ADJACENT WALL OR OBSTRUCTIONS ON PULL SIDE SHALL BE 1/4" MINIMUM.
 - THE MINIMUM LATCH SIDE CLEARANCE BETWEEN THE EDGE OF DOOR AND ADJACENT WALL OR OBSTRUCTIONS ON PUSH SIDE SHALL BE 1/2" MINIMUM.
 - DO NOT APPLY WALL BASE TO HOLLOW METAL OR ALUMINUM FRAMES, UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL COORDINATE FOR INSTALLATION OF POWER, CONDUIT AND/OR WIRING, ETC. AT OPENINGS SCHEDULED TO RECEIVE DEVICES SUCH AS DOOR CONTACTS, CARD READERS, ELECTRIC LOCKS AND AUTOMATIC DOOR OPENERS.
 - ALL STUD FRAMED WALLS SHALL HAVE FULLY WRAPPED FRAMES.
 - FRAME CONDITIONS AT EXTERIOR OPENINGS MAY VARY. REFER TO SECTION DETAILS FOR MORE SPECIFIC INFORMATION.
- ABBREVIATIONS:**
- HM - HOLLOW METAL
 - WD - WOOD
 - AL - ALUMINUM
 - ST - STEEL



1 FOUNDATION PLAN
 1/8" = 1'-0"

ELEVATION TOP OF FINISHED FLOOR SLAB: REFERRED TO AS DATUM
 EL. 0' UNLESS OTHERWISE NOTED ON PLAN.
 FLOOR SLAB: 4" CONC. SLAB + 6#-W14xW14 W.W.F. ON A VAPOR BARRIER
 OVER 6" MIN. DRAINAGE FILL UNLESS OTHERWISE NOTED.
 ELEVATION BOTTOM OF FOOTINGS NOTED THUS () ON PLAN BELOW
 FINISHED FLOOR DATUM EL. 0'.

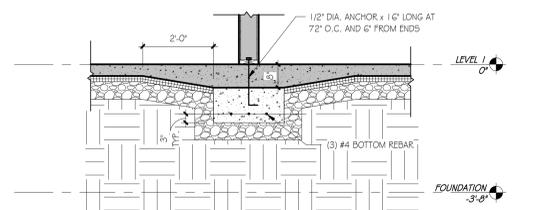
C.J. - INDICATES SLAB CONSTRUCTION OR CONTROL JOINT.
 - INDICATES LOCATION OF HDU HOLDDOWNS, DIRECTION OF SHEAR
 WALL AND #6 VERTICAL REBAR DOWELED INTO CONCRETE
 STRIP FOOTING. REF SHEAR PANEL AND HOLDDOWN DETAIL.

NOTE:
 1. STEP ALL FOOTINGS AT ALL PIPES & CONDUITS. SEE
 TYPICAL DETAIL.
 2. G.C. TO CONFIRM ALL LOCATIONS AND INVERTS OF PIPES
 WITH MECHANICAL & ELECTRICAL CONTRACTORS.
 3. THE FOUNDATION DRAWINGS SHOW ONLY GENERAL LOCATIONS
 AND MAY NOT INCLUDE ALL PENETRATIONS. G.C. TO SEE
 MECHANICAL DRAWINGS FOR FULL EXTENT OF PIPE
 PENETRATIONS.

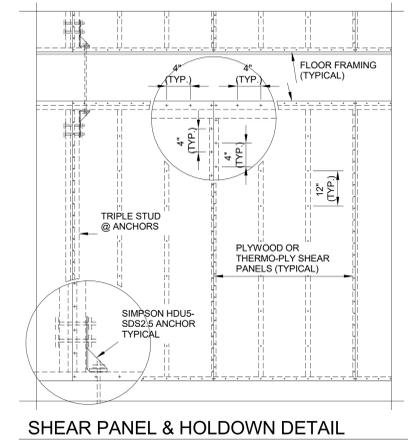
NOTE:
 ELECTRICAL CONTRACTOR TO PROVIDE GROUNDING ELECTRODE SYSTEM
 AS REQUIRED BY NEC SECTION 250-52.a. COORDINATE LOCATION WITH
 GENERAL CONTRACTOR.

2 FRAMING PLAN
 1/8" = 1'-0"

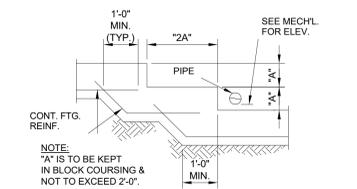
ROOF SHEATHING: 5/8" APA RATED PLYWOOD SHEATHING.
 ALL CONVENTIONAL JOIST, RAFTERS AND HEADERS TO BE
 DOUGLAS FIR NO. 2 AND BETTER.
 ALL STUDS ARE TO BE EQUAL TO HEM FIR CONSTRUCTION GRADE
 OR BETTER.
 PLS - INDICATES A PARALLAM PSL MANUFACTURED JACK BY
 TRUSJOIST BY WEYERHAEUSER
 REF. WOOD HEADER SCHEDULE FOR KING AND JACK
 STUD REQUIREMENTS.



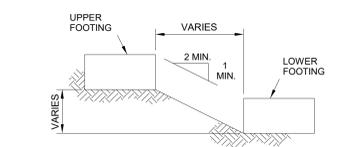
4 FOOTING DETAIL
 1/2" = 1'-0"



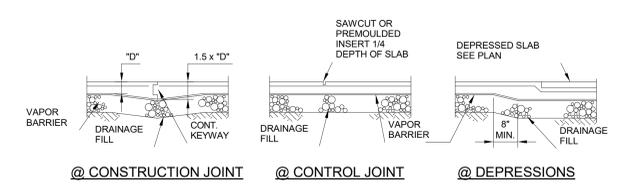
SHEAR PANEL & HOLDDOWN DETAIL



TYPICAL STEPPED FOOTING



TYPICAL SLOPE BETWEEN FOOTINGS

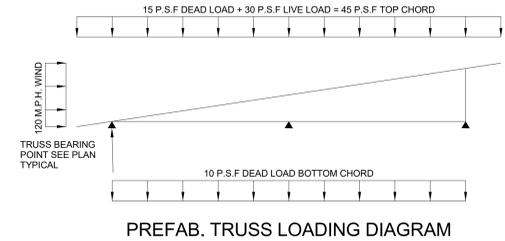


TYPICAL SLAB ON GRADE DETAILS

WOOD HEADER SCHEDULE
 UNLESS OTHERWISE NOTED ON PLAN

ROUGH OPENING	LINTEL SIZE	REMARKS
UP TO 3'-0"	2 x 6's	
3'-1" TO 4'-0"	2 x 8's	
4'-1" TO 6'-0"	2 x 10's	
6'-1" TO 8'-0"	2 x 12's	
OVER 8'-0"	MICRO - LAM	

NOTE:
 1. PROVIDE (2) MEMBERS IN 2x4 STUD WALLS AND (3) MEMBERS
 IN 2x6 STUD WALLS.
 2. FOR INTERIOR WALL OPENINGS PROVIDE (1) JACK STUD FOR SPANS
 LESS THAN 4 ft., (2) FOR SPANS GREATER THAN 4 ft.
 3. FOR EXTERIOR WALL OPENINGS PROVIDE (2) KING STUDS AND
 (1) JACK STUD FOR SPANS LESS THAN 4 ft., (2) FOR SPANS GREATER
 THAN 4 ft.



PREFAB. TRUSS LOADING DIAGRAM

GENERAL NOTES

- FOUNDATION**
- All footings shall bear on soil having a minimum safe bearing capacity of 1.5 tons per square foot. Confirm in field prior to placing footings.
 - Elevations given correspond to the computed bottom of footings and are minimum depths which are not to be construed as limiting in any way the depth required to reach good bearing.
 - No footings shall be placed in water or on frozen ground. After footings are placed they shall be protected against frost.
 - Fill and backfill material shall be free of deleterious organic matter.
 - All footing excavations are to be finished by hand.
 - Reference recommendations from Geotechnical Engineer for fill and backfill requirements.
 - No fill or backfill shall be placed over or against work at such time or in such a manner which would endanger the stability or otherwise damage such work.
 - Reference recommendations from Geotechnical Engineer for requirements concerning preparation of soil for foundations.

CAST-IN-PLACE CONCRETE

- All concrete work shall conform to the latest edition of the ACI Building Code.
- All concrete, except slabs on grade, shall attain 3000 PSI compressive strength at 28 days. All concrete for slabs on grade shall attain 3500 PSI compressive strength at 28 days.
- Ready Mix:
 - Comply with ACI-301, ACI-304 and ASTM C-94.
 - Maximum time between introduction of water and placing to be 1-1/2 hours.
 - Minimum cement content shall be 470 pounds per cubic yard for 3000 PSI concrete, and 520 pounds per cubic yard for 3500 PSI concrete.
 - Maximum water cement ratio shall be 0.51 for 3000 PSI concrete, and 0.47 for 3500 PSI concrete.
 - Maximum slump of concrete shall be 4 inches as determined by ASTM C-143. Maximum slump of concrete shall be 3 inches; and 8" after addition of HRWR to site verified 3" slump for concrete containing HRWR admixture as determined by ASTM C-143.
 - All concrete exposed to the ground or weather shall be air entrained between 4-5% as determined by ASTM C-231 or C-173.
 - Do not load trucks above rated capacity.
 - High-Range Water-Reducing Admixture (Super Plasticizer) shall conform to ASTM C-494, Type F or G and contain not more than 0.1 percent chloride ions.
 - Cold weather concreting shall be in accordance with ACI-306.
 - Prepare concrete test cylinders from each day's pour. Cylinders shall be properly cured, stored and tested. Submit results to Architect.
 - Throughout construction the concrete work shall be adequately protected against damage due to excessive loading, construction equipment, materials or methods, ice, rain, snow, excessive heat and freezing temperatures.
 - Early drying out of concrete, especially during the first 24 hours, shall be carefully guarded against. All surfaces shall be moist cured or protected using a membrane curing agent applied as soon as forms are removed. If membrane curing agent is used, exercise care not to damage coating.
 - Bending, tack welding, cutting or substitute reinforcing other than as shown on the contract drawing is prohibited unless specific approval for each case is given by architect.
 - Concrete shall be conveyed, placed and finished in a workmanlike manner.
 - Prior to making repairs, contractor shall obtain permission from architect to make patches for other than minor non-combining.
 - Contractor to coordinate requirements of structural, architectural, mechanical and electrical drawings.
 - All materials shall be stored to protect them against the elements.

REINFORCING

- All reinforcing bar details shall conform to the latest ACI code and detailing manual.
- All bars shall be ASTM A-615, Grade 60.
- Welded wire fabric shall be ASTM A-185.
- Synthetic fiber reinforcing shall be equal to Fiberstrand 100 by Euclid Chemical Company.
- Provide and schedule with the shop drawings all necessary accessories to hold reinforcing securely in position.
- Clearance of main reinforcing from adjacent surfaces unless shown otherwise shall be:
 - Uniformed surfaces in contact with ground or exposed to the weather: 3"
 - Bottom surfaces of slabs on grade: 3"
 - Formed surfaces in contact with ground or exposed to weather:
 - #5 bars or smaller: 1-1/2"
 - Bars larger than #5: 2"
 - Exterior wall surfaces: 2"
- In all cases not less than the diameter of the bar.
- All reinforcement shall be inspected and approved before concrete is poured.
- Tolerances for placing reinforcing shall be:
 - +0- 1/4 inch for members with an effective depth of 24 inches or less.
 - +0- 1/2 inch for members with an effective depth of more than 24 inches.
 - Where continuous bars are called for, they shall be run continuously around corners and lapped at necessary splices or hooked at discontinuous ends. Laps shall be 40 bar diameters. Bar laps may be offset to avoid control or construction joints.
 - Provide #5 top and bottom in slabs and #5 each face in walls at all four sides of an opening, unless otherwise noted. Extend bars 2'-0" beyond opening or hook where 2'-0" not possible.
 - Electrical Contractor to provide grounding electrode system as required by NEC section 250-52(a). Coordinate location and schedule with General Contractor.

FRAMING LUMBER

- Joists and rafters shall be Douglas Fir No. 2 Grade or better as graded by WCLIB or WWPFA.
- Studs shall be equal to Hem Fir Construction Grade or better as graded by WCLIB or WWPFA.
- All connectors, nails, lag bolts, thru-bolts being used in contact with Alkaline Copper Quaternary (ACQ) treated lumber are to be hot-dipped zinc galvanized, triple zinc-coated (electroplated) or stainless steel.

PLYWOOD SHEATHING

- All plywood sheathing shall comply with APA. Plywood shall meet C-D Interior APA, Structural I and II C-D Interior APA, or Structural I and II C-D Exterior APA.
- Roof sheathing: 5/8" thick 4020.
- Wall sheathing: 5/8" thick 3216.
- Attachment to be in accordance with IBC2018 w/ NJ Modification requirements.
- All plywood to have exterior glue.

PREFABRICATED WOOD FRAMING

- All 1.5E MICROLAM (LVL) Lumber and 2.0E PARALLAM (PSL) shall conform to the latest specifications as prepared by TrusJoist, a Weyerhaeuser Business, or approved alternate.
- Installation to be in strict accordance with manufacturer's recommendations.
- All penetrations to be located as per manufacturer's recommendations.
- Provide temporary bracing as per manufacturer's recommendations.

PREFABRICATED WOOD TRUSSES

- Prefabricated wood or metal trusses shall be designed and manufactured by the truss manufacturer. See required design loads on drawings.
- Submit signed and sealed shop drawings and calculations for review prior to fabrication or erection.
- Installation to be in strict accordance with manufacturer's recommendations. Brace trusses during erection as per manufacturer's recommendations.

MASONRY

- All block work shall be in accordance with IBC2009 w/ NJ Modification and other applicable codes.
- All block shall be lightweight aggregate and conform to ASTM C 90.
- Mortar shall be ASTM C 270, Type M for below grade and Type M or S for above grade work.
- Horizontal reinforcing shall be No. 9 grade "Dur-o-wall or equivalent. Provide fabricated corner sections at all corners. Where masonry is laid in other than running bond, horizontal joint reinforcement is to be provided at every horizontal joint.
- Where block fill is called for on drawings, use Type M mortar or concrete with a compressive strength of 2500 PSI in accordance with ASTM C 476, and installed in accordance with ACI-531 for high or low lift procedures.
- Coordinate masonry with all trades requiring items to be built-in.

MISCELLANEOUS

- Contractor shall verify all dimensions, sections and elevations on the job.
- Consult the Architectural, Mechanical and Electrical drawings for verification of location and dimensions of chases, inserts, openings, sleeves, washes, drips, reveals, depressions, equipment pads and other product requirements.
- All foundation walls shall be braced during the operations of backfilling and compaction. Bracing shall be left in position until permanent restraints have been installed.
- All masonry walls are to be braced during construction until permanently restrained at the top.
- Reproductions of contract documents are not acceptable as shop drawings and will be rejected.
- See specifications for additional requirements. In the case of conflict between specifications and general notes, more stringent requirements shall govern.

CODE REVIEW:

CERTIFICATE:



SPIEZIE ARCHITECTURAL GROUP INC.
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REINFORCING

SEAL:

CONSULTANTS:

PROJECT:
 PUBLIC SAFETY
 BUILDING

5100 E BLACK HORSE PIKE, MAYS
 LANDING, NJ 08330

FOR
 ATLANTIC CAPE
 COMMUNITY
 COLLEGE
 5100 E BLACK HORSE PIKE, MAYS
 LANDING, NJ 08330

FOR CODE REVIEW: 08/31/2020

REVISIONS:

NO.	REVISION NAME	DATE
1		

FOR BID: 08/31/2020

DRAWING TITLE:

STRUCTURAL
 FOUNDATION PLAN
 AND FRAMING PLAN

COMMISSION NUMBER:
 20U008

AGENCY NUMBER:
 ##-###-##
 DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:
 S1.1

MECHANICAL SYMBOLS		MECHANICAL ABBREVIATIONS		PROJECT GENERAL NOTES	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	IDENTIFIER	DESCRIPTION
	HEATING HOT WATER SUPPLY		REDUCER (ECCENTRIC)	B.O.D.	BOTTOM OF DUCT
	HEATING HOT WATER RETURN		VALVE ON RISER	CFM	CUBIC FEET PER MINUTE
	PUMPED CONDENSATE		ANGLE VALVE	CR	CEILING REGISTER
	CONDENSATE DRAIN		PRESSURE RELIEF VALVE	CU	CONDENSING UNIT
	REFRIGERANT LIQUID		CONTROL VALVE (2-PORT)	CW	COLD WATER
	REFRIGERANT SUCTION		CONTROL VALVE (3-PORT)	DB	DRY BULB
	BOILER FEED WATER		PIPE ANCHOR	DN	DOWN
	BLOW DOWN		MOMENT GUIDES	E/A	EXHAUST AIR
	LOW PRESSURE STEAM		OPEN-ENDED PIPE	EAT	ENTERING AIR TEMPERATURE
	LOW PRESSURE CONDENSATE		PIPE TO BE DEMOLISHED	EDB	ENTERING DRY BULB
	STEAM PRESSURE GAUGE W/ SHUT-OFF		CEILING DIFFUSER	EER	ENERGY EFFICIENCY RATIO
	PRESSURE GAUGE W/ SHUT-OFF		EXHAUST OR RETURN REGISTER	EG	EXHAUST GRILLE
	THERMOMETER W/ SHUT-OFF		DUCT UNDER POSITIVE PRESSURE	EH	ELECTRIC HEATER
	Y-TYPE STRAINER W/ BLOWDOWN & HOSE BIBB		DUCT UNDER NEGATIVE PRESSURE	ESP	EXTERNAL STATIC PRESSURE
	UNION		ROUND DUCT	EWB	ENTERING WET BULB
	MANUAL AIR VENT		FLEXIBLE DUCT	EF	EXHAUST FAN
	AUTOMATIC AIR VENT		SUPPLY REGISTER	FB	FILTER BANK
	PIPE TURNING UP		RETURN OR EXHAUST REGISTER	FC	FLEXIBLE CONNECTION
	PIPE TURNING DOWN		DUCT SMOKE DETECTOR	BMS	BUILDING MANAGEMENT SYSTEM
	PITCH DOWN		SMOKE DAMPER	ATC	AUTOMATIC TEMPERATURE CONTROL
	DIRECTION OF FLOW		VOLUME DAMPER	FD	FIRE DAMPER WITH ACCESS DOOR
	CAPPED PIPE		FIRE & SMOKE DAMPER W/ ACCESS DOOR	FPM	FEET PER MINUTE
	EXPANSION JOINT		FIRE DAMPER W/ ACCESS DOOR	G	GAS
	BALL VALVE		BACKDRAFT DAMPER	GPM	GALLONS PER MINUTE
	SWING TYPE CHECK VALVE		MOTORIZED DAMPER	HC	HEATING CONVECTOR
	GATE VALVE		AIRFLOW THRU UNDERCUT	HX	HEAT EXCHANGER
	GLOBE VALVE		AIRFLOW THRU LOUVERED DOOR	LAT	LEAVING AIR TEMPERATURE
	BUTTERFLY VALVE		THERMOSTAT	MAU	MAKE UP AIR UNIT
	CALIBRATED BALANCING VALVE		HUMIDISTAT (WALL MOUNTED)	MBH	THOUSAND BTU PER HOUR
	TRIPLE-DUTY VALVE		NECK SIZES IN DUCT SPLIT	MOD	MOTOR OPERATED DAMPER
	TEMPERATURE SENSOR		CONNECT TO EXISTING	N.C.	NORMALLY CLOSED
	REFRIGERANT SENSOR		AIR DEVICE TYPE	NK	NECK
	FLEXIBLE CONNECTION		AIR QUANTITY	O/A	OUTSIDE AIR
	DUCT MOUNTED COIL		DUCTWORK W/INTERNAL LINING (SINGLE LINE)	OA	OUTSIDE AIR INTAKE
	EXISTING DUCTWORK TO REMAIN		DUCTWORK W/INTERNAL LINING (DOUBLE LINE)	OED	OPEN ENDED DUCT
	ELBOW WITH DOUBLE THICKNESS TURNING VANES		DUCTWORK TO BE DEMOLISHED	R/A	RETURN AIR
	BELLMOUTH TAKE-OFF W/ VOLUME DAMPER		SECTION TAG	RAV	RELIEF AIR VENT
	45' BOOT TAKE-OFF W/ VOLUME DAMPER		DETAIL #	RG	RETURN GRILLE
	REDUCER (ECCENTRIC)		DRAWING # TO LOCATE SECTION	RH	RELATIVE HUMIDITY
	KEY NOTES APPLYING TO DEMOLITION WORK			BAS	BUILDING AUTOMATION SYSTEM
	KEY NOTES APPLYING TO NEW WORK			RR	RETURN REGISTER
	PLAN NORTH			S/A	SUPPLY AIR
				SD	SMOKE DAMPER
				SE	SMOKE EXHAUST
				SF	SUPPLY FAN
				SR	SUPPLY REGISTER
				T	THERMOSTAT
				N.O.	NORMALLY OPEN
				TG	TRANSFER GRILLE
				TO	TRANSFER OPENING
				WMS	WIRE MESH SCREEN
				TR	TOP REGISTER
				TT	THERMOSTATIC TRAP
				UH	UNIT HEATER
				UV	UNIT VENTILATOR
				VD	VOLUME DAMPER
				WB	WET BULB
				W.C.	WATER COLUMN
				WG	WATER GAUGE

- MOTOR CONTROLLERS, MOTOR STARTERS & DISCONNECTS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR. FOR BOILER ROOMS THE MECHANICAL CONTRACTOR SHALL PROVIDE EMERGENCY BOILER SHUT-DOWN SWITCHES AT EACH BOILER ROOM DOOR AND PROVIDE LOCAL DISCONNECT SWITCHES WITH LOCKABLE COVER AT EACH BOILER.
- POWER WIRING TO MECHANICAL EQUIPMENT, MOTOR CONTROLLERS AND CONTROL PANELS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE POWER REQUIREMENTS OF ALL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO BID. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE POWER REQUIREMENTS AND QUANTITY OF ALL CONTROLLERS AND END DEVICES WITH THE ELECTRICAL CONTRACTOR PRIOR TO BID. ALLOCATE THE REQUIRED NUMBER OF CIRCUITS AND ASSOCIATED WIRING PER THE ATC SYSTEM REQUIREMENTS. ADDITIONAL COST SHALL FOR EQUIPMENT, END DEVICE, AND CONTROL POWER SHALL NOT BE PERMITTED.
- HVAC CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
- DUCTWORK AND PIPING LAYOUTS ARE SCHEMATIC DIAGRAMS AND ARE INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY AND DO NOT INDICATE WHICH PIPE OR DUCT IS ABOVE OR BELOW THE OTHER. ALL OFFSETS ARE NOT NECESSARILY SHOWN. CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICT WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND STRUCTURAL AND ARCHITECTURAL ELEMENTS WITHOUT ADDITIONAL COST TO THE OWNER. IF AREAS OF CONFLICT ARE ENCOUNTERED, THE ARCHITECT SHALL BE NOTIFIED AND CONTRACTORS' RECOMMENDATIONS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE WORK HAS BEGUN.
- ENTIRE INSTALLATION SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND OTHER AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND SHALL ARRANGE ALL REQUIRED INSPECTIONS.
- PROPER FIRE PROTECTION MEASURES, SATISFACTORY TO THE LOCAL FIRE DEPARTMENT SHALL BE TAKEN WHEN WELDING OR CUTTING WITH TORCHES OR ELECTRIC ARC.
- PROVIDE FLEXIBLE CONNECTIONS ON ALL ROTATING EQUIPMENT.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS SUPPORTS FOR ALL EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK. SUSPEND FROM SLAB, STEEL, WALL, OR TRUSS WORK.
- BALANCE AND CERTIFY ALL AIR AND WATER FLOWS AS PER SPECIFICATIONS. REFER TO DRAWINGS FOR CFM REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES AND THE FIELD CONDITIONS.
- ALL AIR MOVING DEVICES, INCLUDING NOT LIMITED TO, AIR HANDLING UNITS AND AIR CONDITIONING UNITS MUST COMPLY WITH AMCA STANDARD 210 AND ASHRAE.
- CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL DEVICES WILL BE INSTALLED IN A LOCATION WHICH AFFORDS ACCESSIBILITY FOR MAINTENANCE AND REPAIR. COORDINATE INSTALLATION AMONG ALL TRADES TO AVOID INTERFERENCE, AND LOCATE EQUIPMENT TO MEET OR EXCEED CLEARANCE RECOMMENDED BY THE MANUFACTURER. PRIOR TO PROJECT COMPLETION, REPRESENTATIVES OF OWNER AND JOHNSON & URBAN, LLC CONSULTING ENGINEERS WILL REVIEW EACH INSTALLATION AND WILL DIRECT CHANGES WHENEVER ACCESS OR SERVICEABILITY IS, IN THEIR OPINION, UNACCEPTABLE.
- FURNISH LOCAL DISCONNECT SWITCHES FOR ALL ELECTRICALLY DRIVEN HVAC EQUIPMENT. DISCONNECT SWITCH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- WALL MOUNTED THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE OWNER AND ARCHITECT'S FURNITURE PLANS PRIOR TO INSTALLATION.
- THERMOSTAT WIRING SHALL BE INSTALLED IN CONCEALED SPACE, WALL OR CHASE.
- ALL MECHANICAL COMPONENTS LOCATED BEHIND WALLS/CHASES/HARD CEILINGS REQUIRING ACCESS SHALL BE PROVIDED WITH METAL ACCESS DOORS AT WALL/CEILING SURFACES. THESE COMPONENTS SHALL INCLUDE BUT NOT BE LIMITED TO VALVES, ACTUATORS, VOLUME DAMPERS, FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. ACCESS DOOR SHALL MATCH FIRE RATING OF WALL/CHASE. COORDINATE FULL REQUIREMENTS WITH ARCHITECT. MINIMUM DOOR SIZE SHALL BE 8x8 FOR HAND/ARM ACCESS AND 16x16 FOR HEAD/ARM ACCESS.
- ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.
- ALL EQUIPMENT FOR THIS PROJECT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
- COORDINATION DRAWINGS SHALL BE PREPARED AT A MINIMUM 1/4 SCALE AND SHALL INDICATE ALL TRADES. SUBMIT COORDINATION DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING ANY WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMISSION OF THE NECESSARY FORM-WORK FOR THE PURPOSES OF SECURING SMART-START REBATES FOR THE HVAC EQUIPMENT, MOTORS AND SYSTEMS. CONTRACTOR SHALL INCLUDE THIS WORK AS PART OF THEIR BID.
- AMERICAN MANUFACTURED PRODUCTS SHALL BE USED WHERE POSSIBLE FOR ALL WORK IN ACCORDANCE WITH NJAC 40A:11-18. CONTRACTOR SHALL VERIFY THAT ALL SUBMITTED EQUIPMENT FOR ALL CONTRACTS FOR COUNTY OR MUNICIPAL WORK OR FOR WORK FOR WHICH IT WILL PAY ANY PART OF THE COST, OR WORK WHICH BY CONTRACT OR ORDINANCE IT WILL ULTIMATELY OWN AND MAINTAIN, THAT ONLY MANUFACTURED PRODUCTS OF THE UNITED STATES, WHEREVER AVAILABLE, BE USED IN SUCH WORK. ANY SUBSTITUTIONS OF BASIS OF DESIGN EQUIPMENT SHALL BE VERIFIED BY CONTRACTOR TO CONFORM TO THE ABOVE NOTED REQUIREMENTS.

DRAWING LIST

MO.1	MECHANICAL-NOTES, SYMBOLS & ABBREVIATIONS
MO.2	MECHANICAL-GENERAL NOTES
M.1.1	MECHANICAL- PLANS, DETAILS, AND SCHEDULES

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J&U Project # 20-063

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PROJECT:

PUBLIC SAFETY BUILDING

5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

FOR

ATLANTIC CAPE COMMUNITY COLLEGE

5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

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REVISIONS:

REVISION NUMBER	REVISION NAME	DATE
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MECHANICAL SYMBOLS & ABBREVIATIONS

COMMISSION NUMBER:
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##

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MECHANICAL GENERAL NOTES

HVAC DESIGN CRITERIA

- APPLICABLE CODES AND REFERENCES:
 - INTERNATIONAL BUILDING CODE, 2018 – LATEST ADOPTED NEW JERSEY EDITION.
 - INTERNATIONAL MECHANICAL CODE, 2018 – LATEST ADOPTED NEW JERSEY EDITION.
 - INTERNATIONAL FUEL GAS CODE, 2018 – LATEST ADOPTED NEW JERSEY EDITION.
 - ASHRAE 90.1, 2016 – LATEST ADOPTED NEW JERSEY EDITION.
 - NATIONAL STANDARD PLUMBING CODE, 2018.
 - NFPA No. 90A – AIR CONDITIONING AND VENTILATING SYSTEMS.
 - ASHRAE HANDBOOKS – AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS.
 - UNIFORM CONSTRUCTION CODE OF NEW JERSEY.
- SUMMER OUTDOOR DESIGN CONDITIONS (1.0% FOR NEWARK, NJ PER ASHRAE 90.1 – 2016):
 - DRY BULB: 90 DEG. F.
 - WET BULB: 73 DEG. F.
- SUMMER INDOOR DESIGN CONDITIONS:
 - DRY BULB: 75 DEG. F. (+/- 2 DEG. F.)
 - RELATIVE HUMIDITY: 50%
- WINTER OUTDOOR DESIGN CONDITIONS (1.0% FOR NEWARK, NJ PER ASHRAE 90.1 – 2016):
 - DRY BULB: 10 DEG. F.
- WINTER INDOOR DESIGN CONDITIONS:
 - DRY BULB: 70 DEG. F. (+/- 2 DEG. F.)
 - RELATIVE HUMIDITY: NO MINIMUM HUMIDITY CONTROL PROVIDED
- VENTILATION:
 - OUTSIDE AIR VENTILATION DESIGN AIR QUANTITIES WILL BE AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE, 2018 – LATEST ADOPTED NEW JERSEY EDITION.
- FILTRATION:
 - MINIMUM MERV 7 FILTER MEDIA.

BASIC MECH. MATERIALS & METHODS

- THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS AS INDICATED ON THE CONTRACT DRAWINGS AND THESE SPECIFICATIONS.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE UNIFORM CONSTRUCTION CODE OF NEW JERSEY, IBC, NFPA, SMACNA AND ASHRAE AND ALL OTHER APPLICABLE CODES.
- ALL NEW EQUIPMENT AND MATERIAL SHALL BE FREE OF DEFECTS AND SHALL PERFORM AS INTENDED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MAJOR MANUFACTURED ITEMS REQUIRED ON THIS PROJECT. SHEET METAL SHOP DRAWINGS SHALL BE SUBMITTED MINIMUM 1/4" SCALE. SHOP DRAWINGS SHALL ILLUSTRATE COORDINATION OF ALL TRADES INVOLVED IN THE PROJECT. SHOP DRAWINGS SHALL BE COMPLETE IN ALL RESPECTS, INCORPORATING AND IDENTIFYING ALL INFORMATION REQUIRED FOR THE EVALUATION OF THE PROPOSED MECHANICAL EQUIPMENT AND SYSTEM'S COMPLIANCE WITH THE CONTRACT DOCUMENTS. PARTIAL, INCOMPLETE OR ILLEGIBLE SUBMISSIONS WILL BE RETURNED TO THE CONTRACTOR WITHOUT REVIEW FOR RESUBMITTAL.
- THE CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE EXISTING INSTALLATION PRIOR TO SUBMITTING A PROPOSAL FOR WORK. HE SHALL INVESTIGATE ALL CONDITIONS AND DIMENSIONS AND INCLUDE IN HIS PRICE THE COST FOR OVERCOMING ALL DIFFICULTIES DUE TO FIELD CONDITIONS. NO PART OF THE WORK SHALL BEGIN BEFORE EXISTING CONDITIONS ARE CAREFULLY CHECKED AND ALL DISCREPANCIES ARE REPORTED TO THE ARCHITECT OR ENGINEER.
- THE CONTRACTOR SHALL PAY ALL FEES AND OBTAIN ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL ARRANGE ALL REQUIRED INSPECTIONS.
- ALL WORK SHALL BE DONE DURING NORMAL WORKING HOURS UNLESS OTHERWISE REQUESTED BY OWNER.
- THE DRAWINGS DO NOT INDICATE ALL EQUIPMENT, PIPING, DUCTWORK AND CONDUIT LOCATED WITHIN THE SPACE OR ABOVE THE CEILING. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION OF PIPING AND DUCTWORK AND INSTALLATION OF EQUIPMENT. THE CONTRACTOR SHALL, AT NO ADDITIONAL EXPENSE TO THE OWNER, MAKE ANY REQUIRED CHANGES AS A RESULT OF A FAILURE TO COORDINATE HIS WORK WITH ALL TRADES.
- SEE THE ARCHITECT'S REFLECTED CEILING PLAN FOR FINAL LOCATION OF CEILING DIFFUSERS, RETURN AIR GRILLES, LIGHT FIXTURES AND SPRINKLER HEADS.
- ALL APPLIANCES REGULATED BY THE INTERNATIONAL MECHANICAL CODE SHALL BE LISTED AND LABELED FOR THE APPLICATION IN WHICH THEY ARE INSTALLED AND USED.
- THE CONTRACTOR SHALL FURNISH THE QUALIFIED PERSONNEL, SUPPLIERS, EQUIPMENT REQUIRED TO MAKE ALL NECESSARY TESTS AND VERIFICATION OF EQUIPMENT PERFORMANCE AND CONTROLS. ELECTRICAL POWER, WATER AND FUEL CONSUMPTION FOR TESTING SHALL BE FROM THE OWNER'S SUPPLY.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS STEEL FOR THE SUPPORT OF ALL EQUIPMENT SUSPENDED FROM SLAB OR STEEL. CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING CEILING JOISTS, ETC. PRIOR TO SUSPENDING EQUIPMENT. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, SHOP DRAWINGS AND DETAILS, INDICATING THE PROPOSED EQUIPMENT, PIPING AND DUCT SUPPORTING METHODS PRIOR TO INSTALLATION.
- DAMAGE TO BUILDING AND EQUIPMENT, WHICH IS TO REMAIN, RESULTING FROM DEMOLITION SHALL BE REPAINTED, REPAIRED AND/OR REPLACED BY THE CONTRACTOR.
- CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED UNDER THIS CONTRACT, INCLUDING WORK FOR ROOF AND WALL PENETRATIONS OF PIPING AND DUCTWORK, CORE DRILLING FLOOR SLABS FOR THE PENETRATION OF DUCT AND PIPE RISERS, AND DUE TO EQUIPMENT, PIPING, AND DUCTWORK REMOVALS. SEAL OPENINGS WITH APPROVED MATERIALS TO MAINTAIN EXISTING FIRE RESISTANCE RATINGS OF STRUCTURE. SEAL ROOF AND EXTERIOR WALL OPENINGS WEATHER AND AIR TIGHT.
- PATCH ALL WALL, ROOF AND FLOOR OPENINGS AS NECESSARY DUE TO PIPING, DUCTWORK OR EQUIPMENT REMOVALS TO MATCH EXISTING ADJACENT CONSTRUCTION. PAINT WALLS AND CEILINGS TO MATCH ADJACENT EXISTING FINISHES.
- EQUIPMENT MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN FOR THE BASIS OF DESIGN. THE EQUIPMENT HAS BEEN SELECTED BY THE ENGINEER FOR CONFORMANCE TO VARIOUS CRITERIA SUCH AS, CAPACITIES, ELECTRICAL CRITERIA, STANDARD FEATURES, ETC. SUBSTITUTION OF ANY EQUIPMENT SHALL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER. ALL COSTS RESULTING FROM SELECTION OF OTHER THAN SPECIFIED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR, INCLUDING BUT NOT LIMITED TO, WORK AFFECTING OTHER CONTRACTORS, OWNER, OR DESIGN, INCLUDING REVISING SUPPORTS AND STRUCTURES, ELECTRICAL PROVISIONS AND CONTROLS.
- UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED ON OR SUSPENDED FROM VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF SOUND TO THE BUILDING STRUCTURE. VIBRATION ISOLATORS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, LOCAL SEISMIC CODES AND ON ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT FURNISHED. DEFLECTIONS SHALL BE AS NOTED ON THE EQUIPMENT SHOP DRAWING SUBMITTALS.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH REPRODUCIBLE "AS-BUILT" DRAWINGS AND FOUR (4) COPIES OF AN OPERATING AND MAINTENANCE MANUAL AT THE CONCLUSION OF THE JOB.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A ONE (1) YEAR WRITTEN GUARANTEE OF ALL WORK (LABOR AND MATERIALS) AND A 5 YEAR WARRANTY ON THE COMPRESSORS, STARTING FROM THE DATE OF THE OWNER ACCEPTANCE.
- ALL AUTOMATIC TEMPERATURE CONTROL WIRING SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- THE MECHANICAL CONTRACTOR SHALL FURNISH ALL LOCAL POWER DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT, FOR BOILER ROOMS THE MECHANICAL CONTRACTOR SHALL PROVIDE EMERGENCY BOILER SHUT-DOWN SWITCHES AT EACH BOILER ROOM DOOR AND PROVIDE LOCAL DISCONNECT SWITCHES WITH LOCKABLE COVER AT EACH BOILER. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS OF HIS WORK WITH THE GENERAL AND ELECTRICAL CONTRACTORS PRIOR TO SUBMISSION OF BIDS.
- UNLESS OTHERWISE SPECIFIED, ALL MOTORS 1/2 H.P. AND ABOVE SHALL BE 3 PHASE AND MOTORS UNDER 1/2 H.P. SHALL BE SINGLE PHASE. ALL MOTORS SHALL MEET MINIMUM EFFICIENCIES AS OUTLINED BY ASHRAE/ IESNA STANDARD 90.1-2016 "ENERGY EFFICIENT DESIGN OF NEW BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS".
- HVAC CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL MOTOR STARTERS ASSOCIATED WITH HIS WORK. PROVIDE COMBINATION STARTER/DISCONNECTS WHEN EQUIPMENT IS NOT IN SIGHT OF ELECTRIC PANEL SERVING SAME. ALL STARTERS SHALL HAVE "HAND-OFF-AUTO" SELECTION SWITCHES WITH INDICATOR LIGHTS AND 120V HOLDING COILS. COORDINATE STARTER REQUIREMENTS WITH THE ATC CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL PROVIDE DUCT MOUNTED SMOKE DETECTORS (SUPPLY & RETURN) TO BE INSTALLED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR. DUCT MOUNTED SMOKE DETECTORS SHALL BE PRESENT IN THE MAIN RETURN DUCT FOR ALL AIR HANDLING UNITS SUPPLYING AIR QUANTITIES GREATER THAN OR EQUAL TO 2,000 CFM. DETECTORS SHALL BE PROVIDED IN BOTH SUPPLY AND RETURN MAINS IF THE SYSTEM IS GREATER THAN 15,000 CFM OR AN AIR HANDLING SYSTEM, WHICH EXHAUSTS GREATER THAN 50% OF THE SUPPLY AIR.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE CARBON MONOXIDE (CO) DETECTION AND ALARM SYSTEM IN ROOMS OR SPACES THAT CONTAIN FUEL-BURNING APPLIANCES OR ROOMS OR SPACES THAT ARE SERVED BY FUEL BURNING FORCED AIR FURNACES. CO DETECTORS SHALL BE HARD-WIRED BY THE ELECTRICAL CONTRACTOR AND PROVIDED WITH BATTERY BACKUP. FOR EDUCATIONAL OCCUPANCIES THE CO DETECTION SYSTEM SHALL SIGNAL AN ALARM TO AN ON-SITE LOCATION STAFFED BY SCHOOL PERSONNEL AND TO THE SCHOOL'S ATC SYSTEM BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A CO DETECTION SUPERVISORY ALARM TO THE SCHOOL'S FIRE ALARM SYSTEM.
- ALL PIPE, DUCT, CONDUIT, AND CABLE PENETRATIONS OF FIRE-RESISTANCE-RATED WALLS AND HORIZONTAL ASSEMBLIES SHALL BE PROTECTED WITH APPROVED FIRESTOP SYSTEMS THAT COMPLY WITH ASTM E 814 AND UL 1479 AS MANUFACTURED BY HILTI, 3M (FIRE PROTECTION PRODUCTS DIVISION), JOHNS MANVILLE, OR APPROVED EQUAL. COMPLY WITH THE INSTALLATION REQUIREMENTS ESTABLISHED BY THE QUALIFIED TESTING AND INSPECTING AGENCY.

VALVES

- PROVIDE VALVES OF THE TYPE AND SIZE AS INDICATED ON THE DRAWINGS AND DETAILS. PROVIDE BRASS VALVE TAGS & CHAINS FOR THE PURPOSE OF IDENTIFICATION. CONSULT OWNER'S REPRESENTATIVE FOR PROPER NUMBER SEQUENCING. PROVIDE A CHART COMPILING ALL VALVES AND LOCATIONS AND FURNISH SAME TO OWNER.
- PROVIDE MULTI-DUTY VALVES, ONLY IF SPECIFICALLY CALLED OUT ON THE DRAWINGS.
- SHUT-OFF VALVES FOR REFRIGERATION PIPING SHALL BE 500 PSI PRESSURE RATING, FORGED BRASS BODY, REMOVABLE VALVE CORE, INTEGRAL BALL CHECK VALVE, WITH SOLDER END CONNECTIONS.
- PROVIDE DRAIN VALVES FOR ALL LOW POINTS IN WATER SYSTEMS. VALVES SHALL HAVE HOSE END CONNECTIONS WITH CAP AND CHAIN.

PIPING

- PROVIDE AND ERECT IN A WORKMANLIKE MANNER, ACCORDING TO THE BEST PRACTICE OF THE TRADE, ALL PIPING SHOWN ON THE DRAWINGS OR REQUIRED TO COMPLETE THE INSTALLATION INTENDED BY THESE SPECIFICATIONS.
- REFRIGERANT PIPING
 - ALL NEW REFRIGERANT PIPING SHALL BE COPPER TYPE 'K' OR ACR WITH BRAZED CONNECTIONS AND R-410A HIGH PRESSURE WROUGHT COPPER FITTINGS.
 - REFRIGERANT PIPING SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE/2015, CHAPTER 11, SECTION 1107.
 - REFRIGERANT PIPING SHALL BE OF SIZES AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER FOR COMPLETE AUTOMATIC OPERATION OF THE REFRIGERANT CYCLE, AND INSTALLED IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICE AS RECOGNIZED BY THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE 15).
 - REFRIGERANT PIPING INDICATED IS SCHEMATIC ONLY. CONTRACTOR SHALL SIZE AND DESIGN THE LAYOUT AND INSTALLATION OF THE PIPING, INCLUDING OIL TRAPS, DOUBLE RISERS, SPECIALTIES, AND PIPE AND TUBE SIZES, TO ENSURE PROPER OPERATION AND CONFORMANCE WITH THE WARRANTIES OF CONNECTED EQUIPMENT.
- A.C. CONDENSATE DRAIN PIPING
 - ALL CONDENSATE DRAIN PIPING SHALL BE COPPER TYPE 'L' WITH SOLDERED WROUGHT COPPER FITTINGS.
- HANGERS
 - PROVIDE NECESSARY STRUCTURAL MEMBERS, HANGERS AND SUPPORTS OF APPROVED DESIGN TO KEEP PIPING IN PROPER ALIGNMENT.
 - PIPE HANGERS SHALL BE OF THE CLEVIS, PIPE ROLL AND PIPE CLAMP TYPES, HANGERS SHALL BE GRINNELL OR EQUAL.
 - SUPPORT ALL HORIZONTAL PIPING 1-1/4" AND SMALLER NOT MORE THAN 6" ON CENTERS. ALL HORIZONTAL PIPING 1-1/2" AND LARGER SHALL BE SUPPORTED NOT MORE THAN 10' ON CENTERS, EXCEPT THAT COPPER TUBING SHALL NOT BE MORE THAN 8' ON CENTERS.
- PROVIDE HANGER RODS OF SUITABLE LENGTH AND DIAMETER TO ADEQUATELY SUPPORT PIPING.
- FURNISH AND INSTALL PIPE SLEEVES PASSING THROUGH INTERIOR WALLS. SLEEVES SHALL BE STEEL PIPE: ASTM A 53, TYPE E, GRADE A, SCHEDULE 40, GALVANIZED, PLAIN ENDS, LENGTH EQUAL TO WIDTH OF WALL.
- PROVIDE WEISS "VARI-ANGLE" 9" THERMOMETERS WITH WELLS AND 4-1/2" DIAMETER LIQUID-FILLED PRESSURE GAUGES WITH SHUT-OFF COCKS WHERE INDICATED ON DRAWINGS AND DETAILS.
- PROVIDE SIGNAGE, AS MANUFACTURED BY SETON NAMEPLATE, INDICATING TYPE OF FLUID AND DIRECTION OF FLOW. ALL SIGNAGE SHALL BE IN ACCORDANCE WITH ANSI A13.1.
- ALL PIPING SHALL BE TESTED FOR A PERIOD OF NOT LESS THAN FOUR (4) HOURS AT 1-1/2" TIMES THE MAXIMUM ALLOWABLE WORKING PRESSURE OF THE SYSTEM.

DUCTWORK

- FURNISH AND INSTALL SHEET METAL DUCTWORK WHERE INDICATED ON THE DRAWINGS.
- ALL DUCTWORK, UNLESS OTHERWISE NOTED, SHALL BE GALVANIZED SHEET METAL FABRICATED AND INSTALLED TO THE LATEST SMACNA STANDARDS AND SECURED WITH SHEET METAL SCREWS. ALL JOINTS 18" IN LENGTH OR GREATER SHALL BE OF THE DUCTMATE SYSTEM OR THE SMACNA EQUIVALENT CONNECTION AND CONSTRUCTION. PROVIDE GASKETS AT MATING FLANGES. ALL TRANSVERSE JOINTS AND SEAMS SHALL BE SEALED WITH HIGH PRESSURE DUCT SEALANT. SIZES ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS, INCREASE SIZE BY 1" ALL AROUND TO ACCOMMODATE LINING IF REQUIRED.
- ALL NEW DUCTWORK SHALL BE TESTED FOR AIR LEAKAGE. THE NEW DUCTWORK SHALL BE SEAL CLASS 'A' AND LEAKAGE CLASS-12, AS DEFINED BY THE SMACNA "HVAC SYSTEMS' DUCT DESIGN" MANUAL. THE CONTRACTOR SHALL REPAIR ALL LEAKS AT HIS OWN EXPENSE AND RE-TEST SAME.
- INSTALL SUITABLE SIZED ACCESS DOORS WHERE REQUIRED AT ALL DAMPERS, COILS, FAN BEARINGS, VOLUME CONTROLS ETC. PROVIDE INSULATED DOORS WHERE DUCTWORK IS INSULATED.
- EXTEND ALL BALANCING DAMPERS BEYOND INSULATION.

MECHANICAL INSULATION

- ALL INSULATION MUST BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- APPLY INSULATION AFTER ALL TESTING HAS BEEN COMPLETED AND APPROVED.
- ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED INDEX OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.
- ALL INSULATION FOR EQUIPMENT AND PIPING WITH A SURFACE TEMPERATURE BELOW 65 DEGREES F, SHALL CONTAIN A COMPLETE VAPOR BARRIER SEAL.
 - ALL HEATING HOT WATER, CHILLED WATER, STEAM AND CONDENSATE PIPING SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH AN ALL SERVICE JACKET. PROVIDE ONE-PIECE, MOLDED PVC JACKETS, AS MANUFACTURED BY JOHNS MANVILLE CORP. ZESTON 2000 OR EQUAL, AT ALL FITTINGS AND VALVES.
 - ALL REFRIGERANT SUCTION, LIQUID AND HOT GAS PIPING SHALL BE INSULATED WITH ELASTOMERIC FOAM INSULATION, AS MANUFACTURED BY ARMACELL, TYPE AP, OR EQUAL. ALL EXTERNAL PIPING SHALL BE PROTECTED FROM THE ELEMENTS WITH A UV COATING PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDED WITH A PVC PIPE ENCLOSURE.
- EQUIPMENT INSULATION
 - ALL HEAT EXCHANGERS, PUMP IMPELLERS, AIR SEPARATORS, EXPANSION TANKS ETC. SHALL BE INSULATED WITH 1-1/2" THICK, ALL SERVICE JACKETED (ASJ) BLANKETS, COMPLETE WITH SELF-SEALING LAPS.

TESTING, ADJUSTING & BALANCING

IF ANY EQUIPMENT IS FOUND TO BE FUNCTIONALLY DEFICIENT AT THE TIME OF THE COMMENCEMENT OF THE CONTRACT, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY PRIOR TO PERFORMING ANY WORK INVOLVING THE EQUIPMENT IN QUESTION.

MINIMUM PIPE INSULATION THICKNESS SCHEDULE

FLUID OPERATING TEMPERATURE RANGE (F) AND USAGE	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY	MEAN RATING					
	Btu-in/(h-ft ² -°F)	TEMPERATURE (F)	<1	1 to <1.5	1.5 to <4	4 to <8	>8
201-250 - LP STEAM	0.27-0.30	150.0	2.5	2.5	2.5	3	3
110-200 - HOT WATER	0.25-0.29	125.0	1.5	1.5	2	2	2
40-60 - CONDENSATE DRAIN	0.21-0.27	75.0	1	1	1	1	1
40-60 - CHILLED WATER (INTERIOR)	0.21-0.27	75.0	1	1	1	1.5	1.5
40-60 - REFRIGERANT (INTERIOR)	0.21-0.27	75.0	1	1	1	1	1
<40 - GEOTHERMAL	0.20-0.26	50.0	1	1	1	1.5	1.5
40-60 - CHILLED WATER (EXTERIOR)	0.21-0.27	75.0	2	2	2	2	2
40-60 - REFRIGERANT (EXTERIOR)	0.21-0.27	75.0	1	1	1	1	1

NOTES:

- FOR PIPING SMALLER THAN 1.5" AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES REDUCTION OF THESE THICKNESS BY 1 INCH SHALL BE PERMITTED. BUT NOT TO A THICKNESS LESS THAN 1 INCH.
- SEE SPECIFICATION SECTION 230700 HVAC INSULATION FOR ADDITIONAL INFORMATION.

EXCEPTIONS:

- FACTORY-INSTALLED PIPING WITHIN HVAC EQUIPMENT TESTED AND RATED IN ACCORDANCE WITH ASHRAE 90.1 SECTION 6.4.1
- PIPING THAT CONVEYS FLUIDS THAT HAVE NOT BEEN HEATED OR COOLED THROUGH THE USE OF FOSSIL FUELS OR ELECTRIC POWER.
- PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F (15°C) AND 105°F (41°C).
- WHERE HEAT GAIN OR HEAT LOSS WILL NOT INCREASE ENERGY USAGE (SUCH AS LIQUID REFRIGERANT PIPING)
- STRAINERS, CONTROL VALVES, AND BALANCING VALVES ASSOCIATED WITH PIPING 1 INCH (25 MM) OR LESS IN DIAMETER.

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PROJECT:

PUBLIC SAFETY BUILDING

5100 E BLACK HORSE PIKE, MAY'S LANDING, NJ 08330

FOR

ATLANTIC CAPE COMMUNITY COLLEGE
5100 E BLACK HORSE PIKE, MAY'S LANDING, NJ 08330

FOR CODE REVIEW: 08/31/2020

REVISIONS:

REVISION NAME	DATE

FOR BID: 08/31/2020

DRAWING TITLE:

MECHANICAL GENERAL NOTES

COMMISSION NUMBER:

20U008

AGENCY NUMBER:

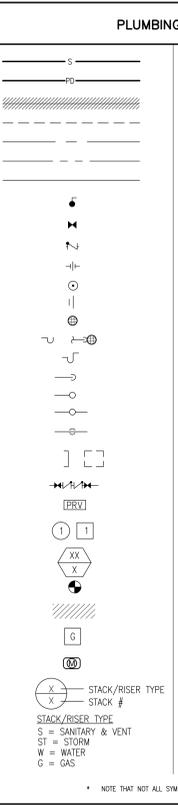
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DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:

MO.2

PLUMBING GENERAL NOTES
1. DO NOT SCALE FROM THESE DRAWINGS.
2. DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
3. ALL INDICATED WORK SHALL BE PERFORMED BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED ON PLUMBING DOCUMENTATION.
4. REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE.
5. IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. IN ADDITION, THIS CONTRACTOR MUST COORDINATE WITH AN OWNER REPRESENTATIVE TO FULLY UNDERSTAND ALL REQUIREMENTS WHICH MAY NOT BE SPECIFIED HEREIN AND WHICH THE TENANT MAY CONSIDER PART OF THIS CONTRACT. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO WORK CLOSELY WITH ALL ACCOMPANYING CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
6. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, OR BETWEEN THESE BID DOCUMENTS AND FIELD CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE OWNER, ARCHITECT AND ENGINEER PRIOR TO BID SUBMISSION.
7. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL CITY, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL PLUMBING MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION, AND IT SHALL BE THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
8. THE PLUMBING CONTRACTOR MUST VISIT THE SITE AND NOTE ALL EXISTING CONDITIONS AS WELL AS ALL CONDITIONS TO BE MET. PRIOR TO BID SUBMISSION, LACK OF A THOROUGH UNDERSTANDING OF THE PROJECT SCOPE AND CONDITIONS SHALL NOT CONSTITUTE AN EXCUSE FOR ERRORS OR OMISSIONS, NOR FOR A REQUEST FOR EXTRA COMPENSATION.
9. IT IS CRITICAL THAT THE PLUMBING CONTRACTOR FIELD VERIFIES ALL EXISTING INVERTS PRIOR TO BID SUBMISSION. IF ANY CONFLICTS EXIST BETWEEN THE NEW PLUMBING SYSTEMS AND THE EXISTING SYSTEMS, THEY SHOULD BE BROUGHT TO THE ATTENTION OF AN OWNER'S REPRESENTATIVE AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PLUMBING SYSTEMS. EXTRA COMPENSATION WILL NOT BE ALLOWED FOR ANY EXTRA WORK WHICH RESULTS FROM AN INABILITY TO MEET THE INVERTS OF THE EXISTING SITE LEVEL PIPING SYSTEMS.
10. THE PLUMBING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF RECORD "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPING, PIPING CONNECTIONS AND ACCESS DOORS. THESE DRAWINGS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.
11. RUN ALL DOMESTIC WASTE & VENT PIPING AS HIGH AS POSSIBLE THROUGHOUT ENTIRE BUILDING, INSTALL LONG RUNS OF PIPING WITHIN JOIST SPACE. COORDINATE AND VERIFY WITH OTHER CONTRACTORS AS NOT TO INTERFERE WITH DUCTWORK, FIRE PROTECTION PIPING, LIGHTING SYSTEMS, ETC.
12. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS, SOFFITS WITH OTHER MECHANICAL / ELECTRICAL FEEDS. ALL SUCH LOCATIONS ARE TO BE REVIEWED WITH A TENANT REPRESENTATIVE AND ARCHITECT PRIOR TO INSTALLATION.
13. ALL PLUMBING FIXTURES / APPLIANCES SHALL HAVE THEIR OWN INDEPENDENT SHUT-OFF VALVES, INSTALLED IN AN EASILY ACCESSIBLE AND CONVENIENT LOCATION.
14. ALL DOMESTIC WATER BRANCH LINES SHALL HAVE THEIR OWN RESPECTIVE SHUT-OFF VALVES.
15. ALL PLUMBING VENT LINES NOTED AS "V, UP" OR "VENT UP" SHALL BE CONNECTED TO THE NEAREST APPROVED "V.I.T.R." OR "VENT THRU ROOF."
16. PRIOR TO INSTALLING SYSTEMS, THE PLUMBING CONTRACTOR SHALL MEET WITH THE ARCHITECT'S REPRESENTATIVE TO FIELD VERIFY THE EXACT LOCATION OF ALL PROPOSED EQUIPMENT WHICH MAY NOT BE CLEARLY INDICATED ON THE DRAWINGS.
17. PROVIDE C.O.'S AT THE BASE OF ALL SANITARY AND WASTE STACKS.
18. SANITARY SEWER PIPING SHOWN IS BASED ON .25" PER FOOT FITCH FOR ALL PIPING SMALLER THAN 3", AND .125" PER FOOT FITCH FOR ALL PIPING 3" AND LARGER UNLESS OTHERWISE NOTED.
19. ALL MATERIALS EXPOSED WITHIN PLenums SHALL BE NON-COMBUSTIBLE OR HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CONTRACTOR SHALL PROVIDE PROOF OF COMPLIANCE WITH THIS REQUIREMENT UPON REQUEST.
20. CONTRACTOR TO PROVIDE AND INSTALL BACKWATER VALVES AS REQUIRED PER N.S.P.C.
21. PIPING LAYOUTS ARE DIAGRAMMATIC AND ARE TO SHOW DESIGN INTENT, GENERAL ARRANGEMENT, SIZE AND CAPACITY. ALL OFFSET ARE NOT SHOWN. PIPING IS TO BE ARRANGED AND COORDINATED TO AVOID CONFLICTS WITH ALL OTHER TRADES AND MODIFIED AS REQUIRED.
22. ALL VTR'S TO BE OFFSET AS REQUIRED TO MAINTAIN MINIMUM 10'-0" CLEARANCE FROM ANY AIR INTAKES.
23. CONTRACTOR TO PROVIDE SHOP DRAWINGS PRIOR TO INSTALLATION, THESE DRAWINGS TO INCLUDE ALL COORDINATION WITH ALL TRADES INCLUDING MECHANICAL, FIRE PROTECTION, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL.
24. WHERE STEEL, FERROUS, OR COPPER PIPES (EXAMPLE: COPPER WATER PIPING) PENETRATE THRU ANY FLOOR OR ANY FIRE RATED WALL, THE ANNULAR SPACE BETWEEN THE PENETRATING ITEM AND THE FIRE RESISTANCE RATED WALL SHALL BE FILLED TO PREVENT THE PASSAGE OF FLAME AND HOT GASES SUFFICIENT TO IGNITE COTTON WASTE WHEN SUBJECTED TO ASTM E 119 TIME-TEMPERATURE FIRE CONDITIONS UNDER A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH OF WATER AT THE LOCATION OF THE PENETRATION FOR A TIME PERIOD EQUIVALENT TO THE FIRE RESISTANCE RATING OF THE CONSTRUCTION PENETRATED. AN EXAMPLE OF A SYSTEM CONFORMING TO THESE REQUIREMENTS IS 3M SYSTEM NO. W14007 WHICH UTILIZES 3M FIRE BARRIER CP200B+ CALK. ALL FLOORS SHALL BE PROTECTED. FOR THE WALLS, THE CONTRACTOR SHALL OBTAIN A SET OF ARCHITECTURAL PLANS AND VERIFY EACH WALL TYPE TO DETERMINE IF THE WALL IS FIRE RATED.
25. ALL MATERIALS, LABOR & SERVICES REQUIRED TO DETERMINE EXACT CONNECTION POINTS AND INVERTS SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR AND SHALL BE INCLUDED IN HIS BID.
26. ANY PRODUCT DESIGNED FOR DISPENSING POTABLE WATER MUST BE LEAD FREE AND MEET BOTH THE NSF 61 AND NSF 372 TEST STANDARDS VIA THIRD-PARTY TESTING AND CERTIFICATION. LEAD FREE REFERS TO THE WETTED SURFACE OF PIPE, FITTINGS AND FIXTURES IN POTABLE WATER SYSTEMS THAT HAVE A WEIGHTED AVERAGE LEAD CONTENT <=0.25% PER THE SAFE DRINKING WATER ACT (SEC. 1417) AMENDED 1-4-2011 AND OTHER EQUIVALENT STATE REGULATIONS.
27. INSTALL 1" INSULATION ON ALL 1-1/4" AND SMALLER PIPE REQUIRING INSULATION AND 1-1/2" INSULATION ON ALL 1-1/2" AND LARGER PIPE REQUIRING INSULATION.
28. PROVIDE ACCESS DOORS IN CEILINGS AND WALLS AS REQUIRED TO MAKE VALVES, TRAP PRIMERS, ETC. READILY ACCESSIBLE. COORDINATE LOCATIONS WITH INSTALLATIONS OF VALVES, WATER HAMMER ARRESTERS, & TRAP PRIMERS IN FIELD DURING CONSTRUCTION.
29. PLUMBING CONTRACTOR IS RESPONSIBLE FOR FINAL CONNECTIONS TO ALL SANITARY LATERALS.
30. REFER TO ARCHITECTURALS FOR ALL FIXTURE MOUNTING HEIGHTS.
31. MOUNT ALL ACCESSIBLE FIXTURES INDICATED ON ARCHITECTURAL DRAWING IN ACCORDANCE WITH THE STATE ADOPTED BARRIER FREE SUBCODE.
32. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF DEBRIS GENERATED BY HIS WORK AT THE END OF EACH WORKING DAY. PLUMBING CONTRACTOR TO SUPPLY DUMPSTER(S) AS REQUIRED FOR HIS TRADE.
33. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL PLUMBING FIXTURES AND EQUIPMENT INCLUDING EQUIPMENT SUPPLIED BY OTHERS.
34. PLUMBING CONTRACTOR TO INSTALL WATER HAMMER ARRESTERS ON ALL WATERS SUPPLIES SERVING QUICK CLOSING FIXTURES.
35. ALL NEWLY PROPOSED PLUMBING PIPING DISTRIBUTIONS LOCATED ABOVE FOOD PREPARATION/STAFF DINING AREAS/PATIENT DIAGNOSTIC & TREATMENT AREAS/PATIENT RMS/PATIENT RECOVERY ROOMS/ORA#™/S/SPECIALIZED SCANNING EQUIPMENT/CLEAN WORKROOMS/CLEAN STERILE STORAGE/ELECTRICAL & ELECTRONIC SYSTEM AREAS SHALL BE PROPERLY ROUTED, PROTECTED & INSTALLED WITH ACCESS TO ALL VALVES/JOINTS/CONNECTIONS/CLEANOUTS FOR PREVENTION OF POTENTIAL CONTAMINATION/DAMAGE FROM DRAINAGE OVERFLOW, FLOODING, BACKFLOW, LEAKAGE & CONDENSATION DROPS AS PER GHF 2014, PART 3, SECTIONS 3.1-8.4.2.1, NOTE #3), 3.1-8.4.2.6, NOTE #1) & NJ DCA PLAN REVIEW.



PLUMBING SYMBOLS	PLUMBING ABBREVIATIONS
—S—	SANITARY WASTE
—W—	PUMPED DISCHARGE
////	PIPING TO BE REMOVED
----	VENT LINE
----	COLD WATER
----	HOT WATER
----	HOT WATER RETURN
●	BALL VALVE
⊥	GATE VALVE
⊥	CHECK VALVE
⊥	UNION
⊥	CLEAN OUT DECK PLATE
⊥	HORIZONTAL CLEANOUT
⊥	FLOOR DRAIN
⊥	P TRAP
⊥	TRAP
⊥	PIPE DOWN, DROP & RISE
⊥	PIPE UP
⊥	TEE PLAN UP
⊥	TEE PLAN DOWN
⊥	ACCESS DOOR
⊥	BACKFLOW PREVENTER
⊥	PRESSURE REDUCING VALVE
⊥	KEY NOTE
⊥	EQUIPMENT TAG
⊥	CONNECT TO EXISTING
⊥	DENOTES LOCATION OF DEMOLITION
⊥	GAS METER
⊥	WATER METER W/ REMOTE MONITORING
⊥	STACK/RISER TAG

PLUMBING DRAWING LIST	
DWG #	DRAWING TITLE
P-1.1	PLUMBING GENERAL INFO. AND FLOOR PLANS
P-1.2	PLUMBING DETAILS

PLUMBING FIXTURE SCHEDULE (COORDINATE FIXTURE TYPES AND COLORS WITH ARCHITECT AND OWNER)											
NO.	LOCATION	FIXTURE	MFG.	TYPE AND MODEL NO.	FAUCET/TRIM	PIPE SIZES					REMARKS
						TRAP	WASTE	VENT	CW	HW	
WC	BATHROOM	WATER CLOSET A.D.A. COMPLIANT	KOHLER	HIGHLINE K-3493-SS	KOHLER SEAT: K-4731	—	4"	2"	3/4"	—	1.6 GPM PRESSURE ASSIST. ELONGATED TANK TYPE ANSI A117.1-2009 COMPLIANT.
LAV	BATHROOM	LAVATORY A.D.A. COMPLIANT	KOHLER	CHESAPEAKE K-1728-0	MOEN FAUCET: 8420	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE ZURN 21231 CONCEALED ARM LAVATORY SUPPORTS AT ADA COMPLIANT HEIGHT.
KS	BREAKROOM	SINK	ELKAY	CELEBRITY CR2522	MOEN FAUCET: 8287	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	—

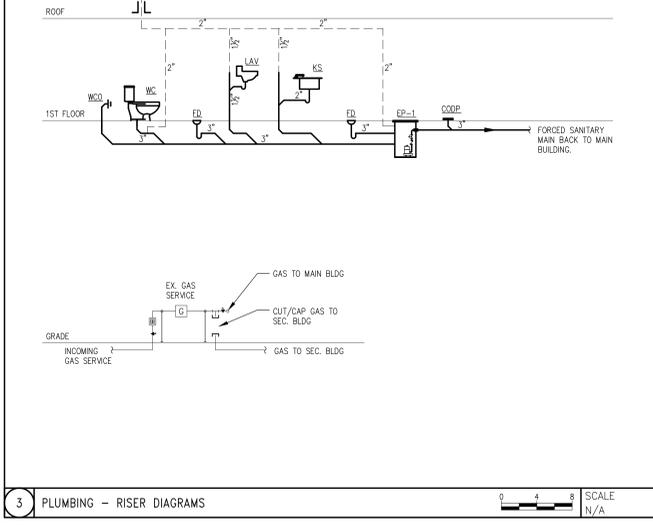
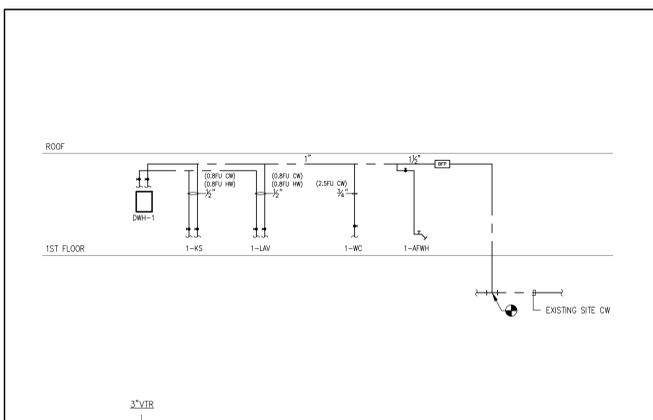
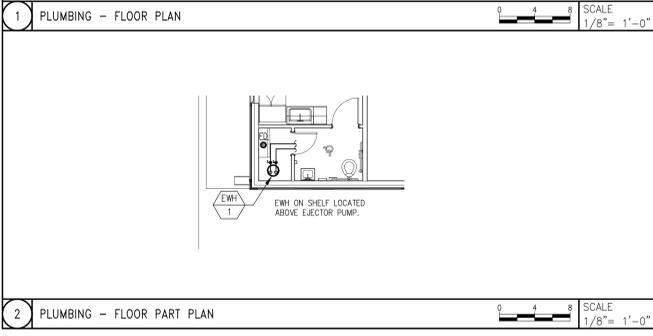
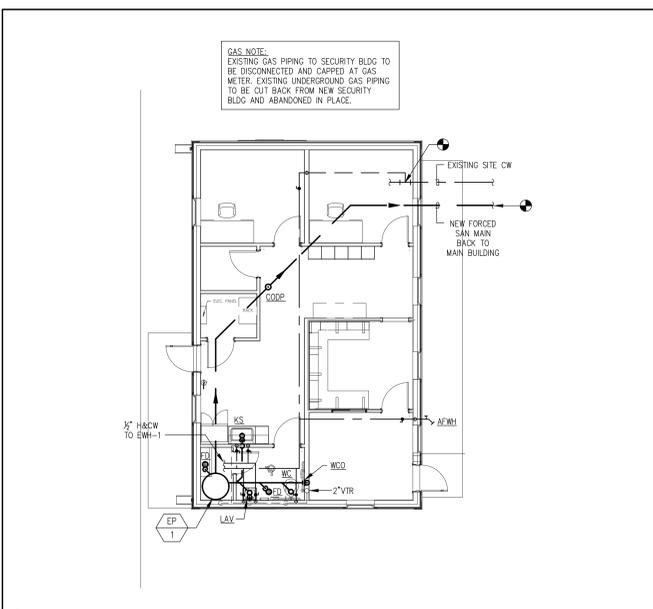
NOTES:
1. PROVIDE McGUIRE PRO-WRAP INSULATING KIT ON TRAPS AND HOT AND COLD WATER SUPPLIES TO ALL HANDICAPPED LAVATORIES.
2. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF HANDICAPPED FIXTURES.
3. PRIOR TO SUBMITTING SHOP DRAWINGS, THE CONTRACTOR SHALL COORDINATE FIXTURE TYPES AND COLORS WITH THE ARCHITECT.
4. REFER TO THE ARCHITECTS DRAWINGS FOR LOCATION AND QUANTITIES OF HANDICAPPED FIXTURES.
5. ALL HANDICAPPED FIXTURES SHALL BE INSTALLED AS PER ANSI A117.1-2009 REQUIREMENTS.
6. PROVIDE AN ASSE. 1070 APPROVED TEMPERATURE LIMITING DEVICE ON ALL LAV AND KITCHEN SINKS. SET MAX TEMPERATURE TO 110°F (LEONARD 270-LF SERIES).

EQUIPMENT SCHEDULE														
GENERAL				DESIGN DATA				ELECTRICAL				REMARKS		
ITEM	SERVICE	MFR.	No.	LOCATION	CAPACITY	PUMP HEAD	REQUIRED MIN. EFF.	UNIT EFFICIENCY	MBH/HP KW	R.P.M.	VOLTS		PHASE	HZ.
HW	DOMESTIC WATER HEATER	A.O. SMITH	90L-6-3	BATHROOM CLOSET	6 GALLON 17 GPM @ 72" RISE	---	---	---	3 KW	---	208V 14.4A	(1)	60	PROVIDE PLATFORM FOR WATER HEATER AND MOUNT HIGH IN BATHROOM CLOSET. SET HOT WATER DISCHARGE TEMPERATURE TO 120°F.
XT	EXPANSION TANK	AMTROL	ST-50	STORAGE ROOM	2.0 GAL.	---	---	---	---	---	---	---	---	PROVIDE ISOLATION VALVE & INCH CONNECTION ASME APPROVED.
EP	ELECTOR PUMP	LIBERTY	3248LSC200-5-SC. ALM-2W ALARM PANEL	BATHROOM CLOSET	38 GPM	10 FT	---	---	2 HP	3450	208/230	(1)	60	PROVIDE 304B STAIN. SS SERIES ALM-WZ ALARM PANEL. CHECK VALVE ON DISCHARGE.

INSULATION SCHEDULE					
SYSTEM	PIPE SIZE	PIPE INSULATION TYPE	PIPE INSULATION THICKNESS	FITTINGS, VALVES, PLANGES INSULATION TYPE	REMARKS
DOMESTIC COLD WATER, HOT WATER, DOMESTIC HOT WATER RECIRCULATION	LESS THAN 1/2"	MINERAL FIBER, PRE-FORMED	1"	MINERAL FIBER, PRE-FORMED	TYPE 1
DOMESTIC COLD WATER, BUILDING SERVICE WATER, DOMESTIC HOT WATER, DOMESTIC HW RECIRCULATION	1" & LARGER	MINERAL FIBER, PRE-FORMED	1-1/2"	MINERAL FIBER, PRE-FORMED	TYPE 1
CONDENSATE DRAINS	ALL	MINERAL FIBER, PRE-FORMED	THICE PIPE DIAMETER	MINERAL FIBER, PRE-FORMED	TYPE 1
ADA COMPLIANT FIXTURE SUPPLIES, STOP VALVES, DRAIN TAILPIECES, TRAPS & WASTE.	ALL	TRUBRO OR SIMILAR APPROVED	—	—	—
DOMESTIC WATER RISERS AND BRANCHES	LESS THAN 1/2"	MINERAL FIBER, PRE-FORMED	1"	MINERAL FIBER, PRE-FORMED	TYPE 1
DOMESTIC WATER RISERS AND BRANCHES	1" & LARGER	MINERAL FIBER, PRE-FORMED	1-1/2"	MINERAL FIBER, PRE-FORMED	TYPE 1

MISCELLANEOUS PLUMBING SCHEDULE		
MARK	FIXTURE	MFG. No.
SA	SHOCK ARRESTOR	MFB# #MWH
AE	ACCESS PANEL/DOOR	MFB# #M, PROVIDE MFR. WHERE FIRE RATED CONDITION EXISTING. SIZE AS REQUIRED. COORDINATE WITH ARCHITECTURAL.
IV	TEMPERING VALVE	LEONARD 270-LF. PROVIDE AT ALL PUBLIC HAND WASHING FACILITIES SET TEMP TO 110° F
COOP	CLEAN OUT DECK PLATE	WATTS #FD-200-8
FD	FLOOR DRAIN	WATTS #FD-100-A. PROVIDE TRAP SEAL DEVICE
AEWJ	ANTI-FREEZE WALL HYDRANT	WATTS #LFFWB-1

NOTES:
1. MINERAL FIBER THERMAL CONDUCTIVITY .22 TO .25 BTU X IN/HR X °F W/ 100° F MEAN TEMP. THICKNESS BASED ON ASHRAE 90.1, 207, TABLE 6.8.3.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. AND GENERAL NOTES FOR ADDITIONAL INFORMATION.
3. FULL LENGTH OF BRANCH PIPING (EG. CROTONS) MUST ALSO BE INSULATED OFF DHW RISERS.



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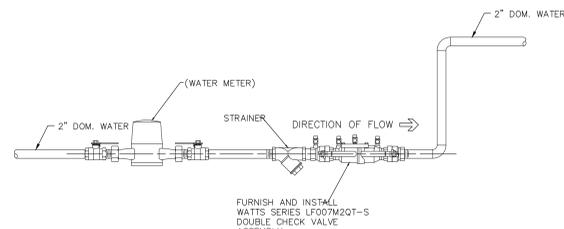
Mark E. Lonergan, P.E.
NJ License #480180019000

PROJECT:
PUBLIC SAFETY BUILDING
5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330
FOR
ATLANTIC CAPE COMMUNITY COLLEGE
5100 E BLACK HORSE PIKE, MAYS LANDING, NJ 08330

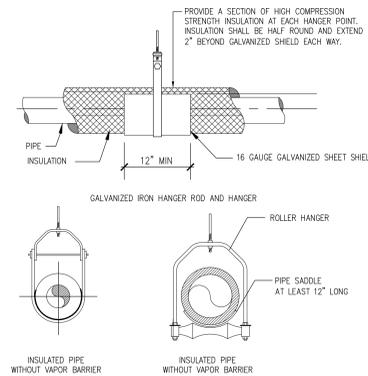
FOR CODE REVIEW: 08/31/2020
REVISIONS:
REVISION NAME DATE

FOR BID: 08/31/2020
DRAWING TITLE:
PLUMBING GENERAL INFO. & FLOOR PLANS
COMMISSION NUMBER:
20U008
AGENCY NUMBER:

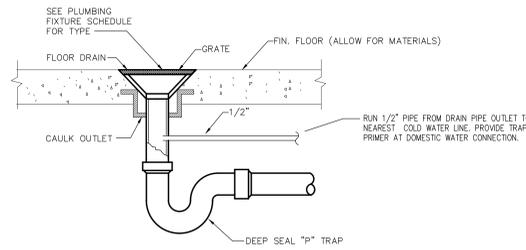
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DRAWING NUMBER:
P1.1



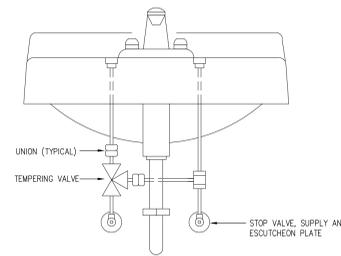
DOUBLE CHECK VALVE ASSEMBLY DETAIL
N.T.S.



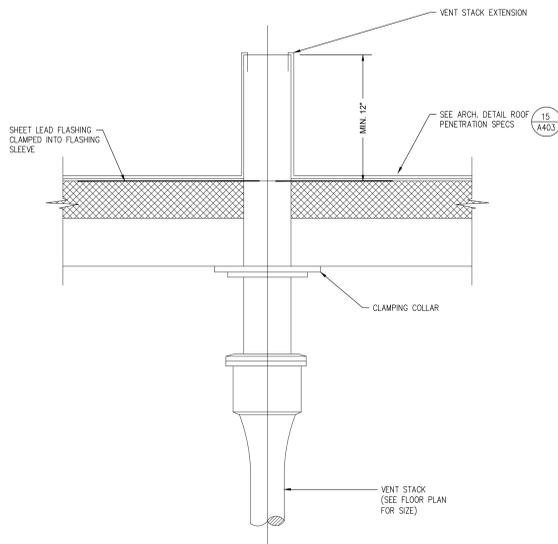
TYPICAL PIPE HANGER DETAILS
N.T.S.



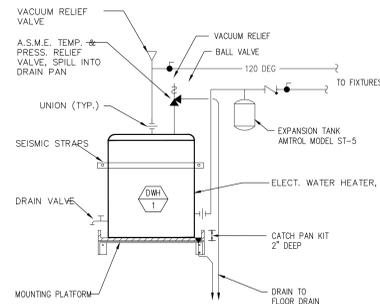
DETAIL OF TYPICAL FLOOR DRAIN
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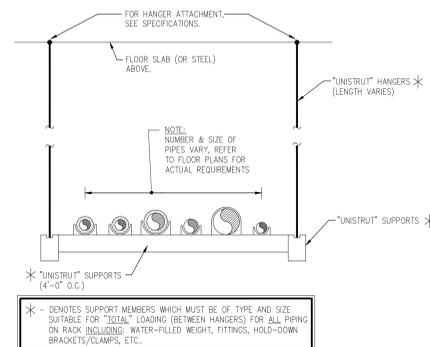
DETAIL OF POINT OF USE TEMPERING VALVE
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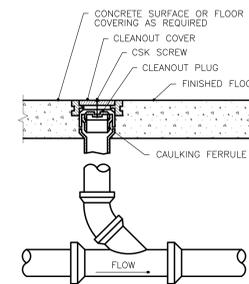
DETAIL OF VENT THRU ROOF
N.T.S.



DETAIL OF HOT WATER HEATER ON SHELF
N.T.S.



DETAIL OF PIPE SUPPORTS
N.T.S.



FLOOR CLEANOUT DETAIL
N.T.S.

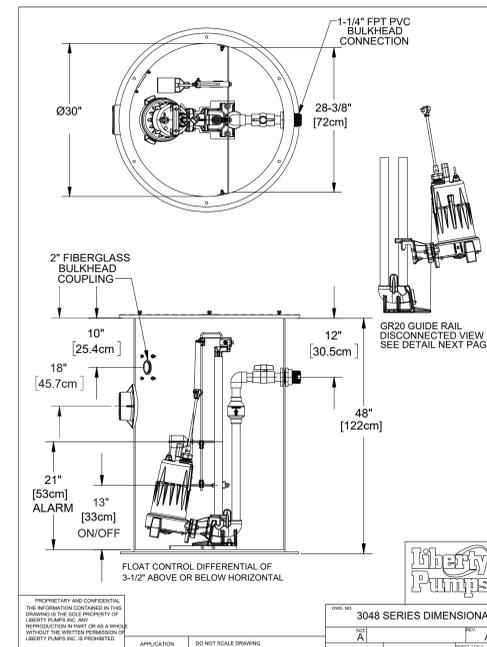
3048LSG/LSGX-Series Electrical Data

MODEL	HP	VOLTAGE	PHASE	SF	FULL LOAD AMPS	LOCKED ROTOR AMPS	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	CORD LENGTH	DISCHARGE	AUTOMATIC
3048LSG202	2	208-230	1	1.0	15	53	135°C	B	25' 1-1/4" NPT		YES

3048LSG/LSGX-Series Technical Data

TANK	WOUND FIBERGLASS WITH ANTI-FLOTATION FLANGE STANDARD - FIBERGLASS COVER OPTIONAL - STEEL COVER
CAPACITY	TOTAL BASIN VOLUME - 147 GALLON / 556 LITERS PUMP CYCLE - 21 GALLONS / 79 LITERS
GUIDE RAIL	STANDARD - SCHEDULE 40 GALVANIZED OPTIONAL - SCHEDULE 40 STAINLESS STEEL
GUIDE RAIL BASE/DISCONNECT (GR20)	CAST IRON
INLET HUB	4" WITH FLANGE GASKET AND PIPE SEAL
DISCHARGE PIPING	SCHEDULE 80 PVC
JUNCTION BOX	NEMA 4X OUTDOOR WITH 6-20R 230V RECEPTACLE
ALARM	NEMA 4X OUTDOOR ALARM WITH VISUAL AND AUDIBLE (80 DBI) ALARM
IMPELLER	300 SERIES STAINLESS STEEL
PAINT	POWDER COATING
MAX LIQUID TEMP	60°C / 140°F
MAX STATOR TEMP	LSG MODELS - 105°C / 221°F LSGX MODELS - 135°C / 275°F
THERMAL OVERLOAD	LSG MODELS - 105°C / 221°F LSGX MODELS - 135°C / 275°F
POWER CORD TYPE	SJ00W
MOTOR HOUSING	CLASS 25 CAST IRON
VOLUTE	CLASS 25 CAST IRON
SHAFT	300 SERIES STAINLESS STEEL
HARDWARE	STAINLESS
O-RINGS	BUNA-N
MECHANICAL SEAL	UNITIZED SILICON CARBIDE
MIN BEARING LIFE	50,000 HRS
WEIGHT	270 LBS / 123 KG

3048LSG/LSGX-Series Dimensional Data



CODE REVIEW:

CERTIFICATE:



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J&U Project # 20-063

Mark E. Lonergan, P.E.
No. License #24C0815300

PROJECT:

PUBLIC SAFETY BUILDING

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FOR

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REVISIONS:

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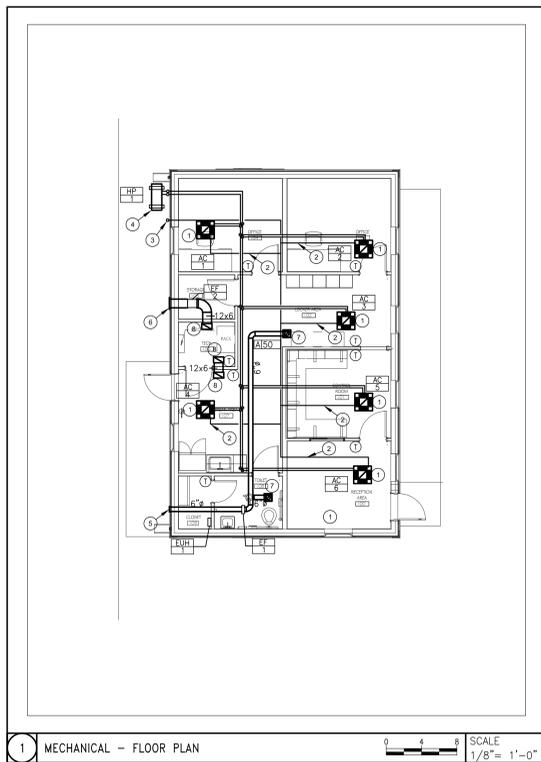
PLUMBING DETAILS

COMMISSION NUMBER:
20U008

AGENCY NUMBER:
##-##-##
DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:

P1.2



- KEY NOTES ((1), (2), ETC.)
- INSTALL 2'x2' VRF CASSETTE UNITS IN NEW CEILING. REFRIGERANT LINES TO RUN ABOVE DROP CEILING. SIZES AND RUN BY MANUFACTURER.
 - 1" PUMPED CONDENSATE FROM CASSETTE UNIT.
 - TERMINATE CONDENSATE IN DRY WELL OUTSIDE. REFER TO DETAIL.
 - HEAT PUMP TO BE MOUNTED ON GRADE. PROVIDE CONCRETE PAD AND INSTALL ON RAILS AT LEAST 18" ABOVE GRADE.
 - TERMINATE TOILET/LOCKER EXHAUST WITH DRAINABLE BLADE STATIONARY LOUVER SIMILAR TO GREENHECK ESD-202 8"x8". PROVIDE BACKDRAFT DAMPER GREENHECK WDR-53.
 - TERMINATE TECH CLOSET EXHAUST WITH DRAINABLE BLADE STATIONARY LOUVER SIMILAR TO GREENHECK ESD-202 12"x12". PROVIDE BACKDRAFT DAMPER GREENHECK BD-300.
 - PROVIDE 12"x12" EXHAUST DIFFUSER PRICE MODEL PDR (50 CFM). ALUMINUM CONSTRUCTION WITH 6" ROUND NECK. MOUNTED IN CEILING.
 - PROVIDE 14"x8" TRANSFER GRILLE PRICE MODEL 530 (200 CFM). MOUNTED IN CEILING.

EXHAUST FAN SCHEDULE

ID	AREA SERVED	FAN SERVICE	MODEL NO.	TYPE	DRIVE	CFM	FAN RPM	S.P. (IN. W.G.)	MOTOR WATTS	VOLTS	PHASE	HZ	WEIGHT LBS	NOTES
EF-1	TOILET/LOCKER		FG-6	CENT INLINE	DIRECT	100	325	0.50	70	120	1	60	35	1.2
EF-2	TECH CLOSET		FRD 12-6	RECT INLINE	DIRECT	200	325	0.50	151	120	1	60	35	1.2

NOTES:
1. UNIT SELECTION IS BASED ON FANTECH.
2. PROVIDE UNIT WITH DISCONNECT SWITCH.

ELECTRIC UNIT HEATER SCHEDULE

UNIT ID	MODEL NO.	QTY	TYPE	HEATER			FAN			ELECTRICAL			AREA SERVED	OPER. WEIGHT (LBS)	NOTES
				WATTS	BTUH	CFM	RPM	AMPS	VOLTS	PHASE					
EUH-1	CWH1101DSF	1	WALL	1,000	3,413			8.4	120	1			CLOSET 109		1 THRU 3

NOTES:
1. UNIT SELECTION IS BASED ON OMRK.
2. FURNISH UNIT WITH DIE-FORMED STEEL HOUSING, ALUMINUM-FINISHED, COPPER CLAD STEEL HEATING ELEMENT, AND THERMAL CUT OUT.
3. PROVIDE UNIT WITH UNIVERSAL WALL/CEILING MOUNTING BRACKET.

1 MECHANICAL - FLOOR PLAN SCALE 1/8" = 1'-0"

VARIABLE REFRIGERANT HEAT PUMP UNIT (OUTDOOR UNIT)

UNIT NO.	LOCATION	MFG	SERVICE	MODEL NO.	COOLING			HEATING			ELECTRICAL CHARACTERISTICS			WEIGHT (LBS)	EER/COP	NOTES
					TOT CAP (MBH)	AMB TEMP (F)	CAPACITY (MBH)	AMB TEMP (F)	VOLTS/PH	MCA	MOCP (FUSES)					
HP-1	ON GRADE ON CURB	DAIKIN	VRF SYSTEM FOR OFFICES	RXTQ26TAV/9A	36	95°	37	10°	208/1	16.5	25				10.7 EER / 3.5 COP	1-10

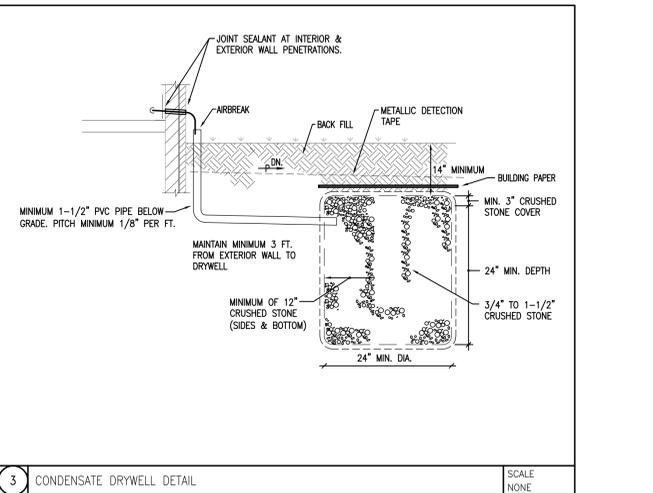
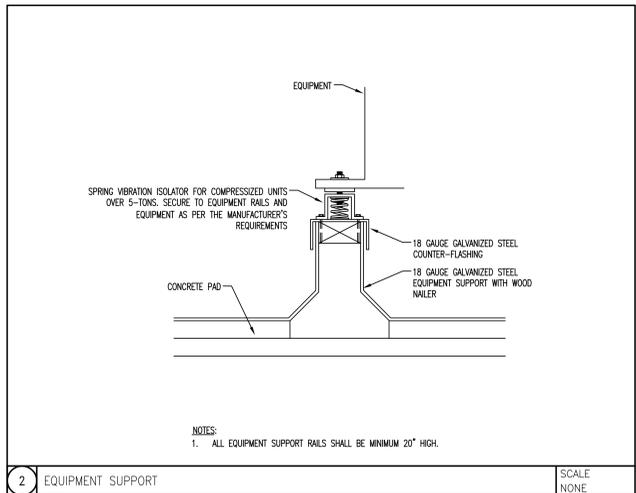
NOTES:
1. SIZE PIPING AS DIRECTED BY MANUFACTURER BASED ON ACTUAL FIELD ROUTING.
2. UNIT SHALL BE PROVIDED WITH DAIKIN BUILDING MANAGER WITH BACNET CLIENT FOR MONITORING AND SCHEDULING OF VRV.
3. PROVIDE LOW AMBIENT HEATING TO -13°F.
4. PROVIDE LOW AMBIENT COOLING TO -4°F.
5. ALL COMPRESSORS SHALL BE INVERTER COMPRESSORS.
6. PROVIDE TEN YEAR WARRANTY ON ALL PARTS.
7. SYSTEM MUST PROVIDE CONTINUOUS HEATING DURING DEFOST.
8. INSTALL UNITS ON 18" HEIGHT RAILS WITH VIBRATION ISOLATION PADS TO PREVENT SNOW PILE ON UNIT COILS.
9. PROVIDE FACTORY FUSED DISCONNECT SWITCH.
10. UNIT TO BE PROVIDED WITH R-410A REFRIGERANT WHICH IS A CLASS A REFRIGERANT.

VARIABLE REFRIGERANT INDOOR UNITS

UNIT NO.	SERVICE	MODEL NO.	HP SYSTEM	TYPE	AIRFLOW (CFM)	ERV O.A. AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	COOLING			HEATING			ELECTRICAL CHARACTERISTICS			WEIGHT (LBS)	NOTES	
								TOT CAP (MBH)	SEN CAP (MBH)	ENT AIR TEMP (DBWB)	AMB AIR CAPACITY (MBH)	EAT (F)	AMB AIR (F)	VOLTS/PH	MCA	MOCP			
AC-1	OFFICE 104	FXZ007TAVJU	HP-1	CASSETTE	250	0	N/A	7.5	5.5	75°F/62.5°F	95°F	8.5	68°F	10°F	208/1	0.3	15.0	50	1-9
AC-2	OFFICE 103	FXZ007TAVJU	HP-1	CASSETTE	250	0	N/A	7.5	5.5	75°F/62.5°F	95°F	8.5	68°F	10°F	208/1	0.3	15.0	50	1-9
AC-3	LOCKER AREA	FXZ005TAVJU	HP-1	CASSETTE	250	0	N/A	5.8	4.7	75°F/62.5°F	95°F	6.5	68°F	10°F	208/1	0.3	15.0	50	1-9
AC-4	BREAK ROOM 107	FXZ007TAVJU	HP-1	CASSETTE	250	0	N/A	7.5	5.5	75°F/62.5°F	95°F	8.5	68°F	10°F	208/1	0.3	15.0	50	1-9
AC-5	CONTROL ROOM 101	FXZ005TAVJU	HP-1	CASSETTE	250	0	N/A	5.8	4.7	75°F/62.5°F	95°F	6.5	68°F	10°F	208/1	0.3	15.0	50	1-9
AC-6	RECEPTION AREA 100	FXZ007TAVJU	HP-1	CASSETTE	250	0	N/A	7.5	5.5	75°F/62.5°F	95°F	8.5	68°F	10°F	208/1	0.3	15.0	50	1-9

NOTES:
1. SIZE PIPING AS DIRECTED BY MANUFACTURER BASED ON ACTUAL FIELD ROUTING. UNIT TO BE INSTALLED PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
2. MOUNT INDOOR UNIT ON LEVEL SURFACE AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE CORE DRILL FOR PIPING WITH EXACT UNIT LOCATION.
3. PIPE CONDENSATE TO NEAREST AVAILABLE DRAIN AND PROVIDE DAIKIN DACA CONDENSATE PUMP WITH COMPLETE INSTALLATION KIT IF RUN EXCEEDS UNITS DRAINAGE CAPABILITY.
4. PROVIDE WITH FACTORY INSTALLED CONDENSATE PUMP PIPED TO NEAREST AVAILABLE DRAIN.
5. ALL UNITS TO BE CONNECTED TO HP-X UNIT SPECIFIED IN THIS SCHEDULE.
6. PROVIDE 7-DAY PROGRAMMABLE WALL MOUNTED THERMOSTAT, 1 PER SPACE LOCATED AS SHOWN IN FLOOR PLANS.
7. DUE TO THE MODULAR NATURE OF THESE SYSTEMS, INDIVIDUAL EFFICIENCY RATINGS ARE NOT APPLICABLE. PLEASE REFER TO THE VARIABLE REFRIGERANT HEAT PUMP UNIT (OUTDOOR UNIT) SCHEDULE FOR SYSTEM EFFICIENCY.
8. PROVIDE WITH WASHABLE FILTERS.
9. PROVIDE FACTORY FUSED DISCONNECT SWITCH.

NOTES:
1. UNIT SELECTION IS BASED ON OMRK.
2. FURNISH UNIT WITH DIE-FORMED STEEL HOUSING, ALUMINUM-FINISHED, COPPER CLAD STEEL HEATING ELEMENT, AND THERMAL CUT OUT.
3. PROVIDE UNIT WITH UNIVERSAL WALL/CEILING MOUNTING BRACKET.



2 EQUIPMENT SUPPORT SCALE NONE

3 CONDENSATE DRYWELL DETAIL SCALE NONE

VARIABLE REFRIGERANT HEAT PUMP (VRV)

GENERAL
THE UNIT SHALL INCLUDE WITH A MANUFACTURER PROVIDE MIRO-PROCESSOR CONTROLLER WITH WALL THERMOSTAT, OCCUPIED OVERRIDE AND INTERFACE WITH THE BMS.

UNOCCUPIED MODE
DURING THE UNOCCUPIED MODE, THE VARIABLE REFRIGERANT HEAT PUMP UNITS OUTDOOR AIR DAMPER SHALL BE CLOSED SUPPLY AIR FAN SHALL BE INTERMITTENTLY CYCLED TO MAINTAIN A NIGHT SETBACK TEMPERATURE OF 55 DEG IN HEATING AND 85 DEG IN COOLING (ADJ). THE UNITS INTERNAL CONTROLS SHALL SWITCH BETWEEN COOLING AND HEAT PUMP MODE OF OPERATION.

EQUIPMENT SERVING I.T. ROOMS THE UNOCCUPIED SETPOINTS SHALL MATCH OCCUPIED MODE.

MORNING WARM-UP HEATING MODE (UNOCCUPIED TO OCCUPIED CHANGEOVER)
WHEN THE UNIT IS IN THE MORNING WARM-UP MODE, THE SUPPLY FAN WILL OPERATE CONTINUOUSLY AND THE UNIT SHALL OPERATE UNTIL OCCUPIED SETPOINT IS REACHED. ONCE THE OCCUPIED HEATING SET POINT IS REACHED, THE UNIT SHALL RETURN TO THE OCCUPIED MODE.

OCCUPIED MODE
DURING THE OCCUPIED MODE, THE UNITS OUTDOOR AIR DAMPER SHALL OPEN THE UNITS INTERNAL CONTROLS SHALL MAINTAIN A ROOM TEMPERATURE OF 70 DEG IN HEATING AND 75 DEG IN COOLING (ADJ). THE UNITS INTERNAL CONTROLS SHALL SWITCH BETWEEN COOLING AND HEAT PUMP MODE OF OPERATION.

FOR UNITS SERVING OCCUPIED SPACES THE SUPPLY FAN SHALL RUN CONTINUOUSLY WHILE THE I.T. ROOMS IT SHALL RUN INTERMITTENTLY BASED ON LOAD.

EXHAUST FANS (EF)

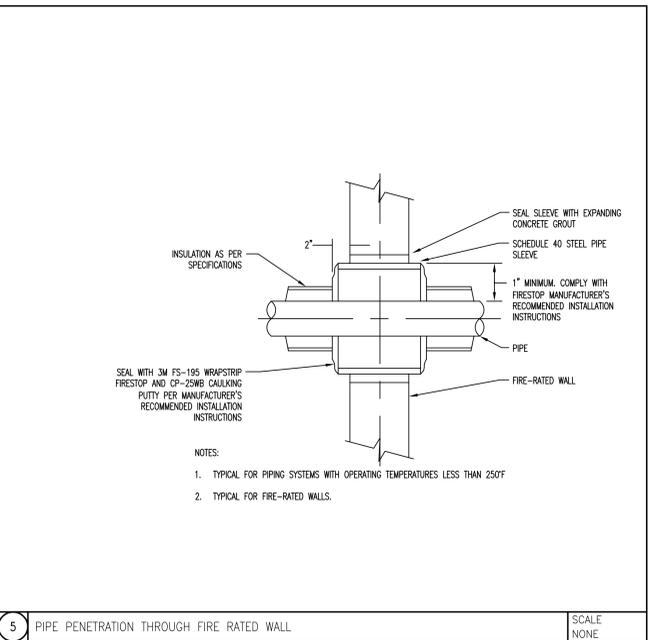
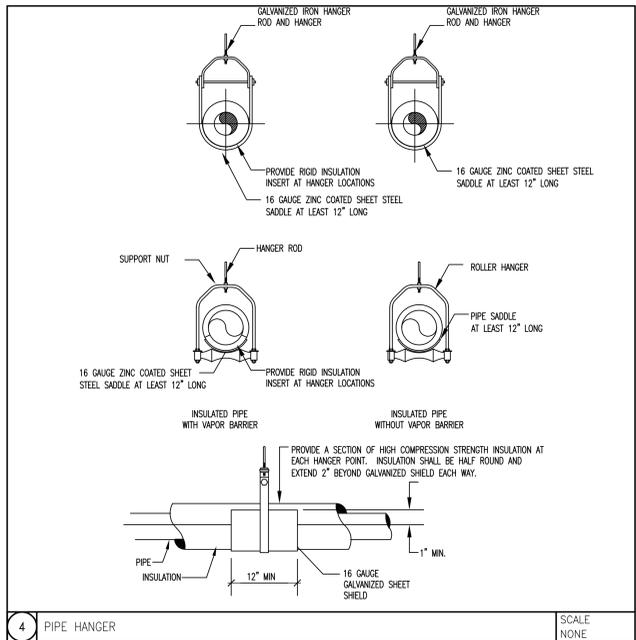
EXHAUST FANS - GENERAL
THE EXHAUST FANS SHALL BE INDEXED FOR OCCUPIED - UNOCCUPIED MODES OF OPERATION THROUGH THE ATC SYSTEM. DURING THE OCCUPIED CYCLE, THE RESPECTIVE EXHAUST FANS SHALL RUN CONTINUOUSLY. DURING THE UNOCCUPIED CYCLE, THE RESPECTIVE EXHAUST FANS SHALL REMAIN OFF.

PROVIDE A CURRENT SENSOR AT EACH OF THE EXHAUST FANS. THE SENSOR SHALL PROVIDE FAN FLOW STATUS AND FAN FAILURE TO THE ATC SYSTEM.

EACH FAN IS TO BE PROVIDED WITH A FAIL CLOSED MOTORIZED DAMPER WHICH SHALL CLOSE WHEN THE FAN IS NOT OPERATING.

TECH CLOSET VENTILATION OR HEAT REMOVAL EXHAUST FAN
THE VENTILATION EXHAUST FAN SHALL BE AUTOMATICALLY INDEXED ON AND OFF BY THE SPACE THERMOSTAT WHEN THE TEMPERATURE EXCEEDS 85 DEG (ADJ). THE THERMOSTAT SHALL HAVE AN AUTO-ON-OFF FAN SWITCH. THE ASSOCIATED OUTSIDE AIR INTAKE AND EXHAUST DAMPERS SHALL OPEN WHENEVER THE FAN IS RUNNING. WHERE SPACE ALSO INCLUDE UNIT HEATER USE A SINGLE THERMOSTAT.

EXHAUST FANS (EF) SCALE NONE



4 PIPE HANGER SCALE NONE

5 PIPE PENETRATION THROUGH FIRE RATED WALL SCALE NONE

RECTANGULAR DUCT HANGER SCHEDULE (MINIMUM SIZES)

HALF DUCT PERIMETER RANGE	PAIR AT 10' SPACING		PAIR AT 8' SPACING		PAIR AT 5' SPACING		PAIR AT 4' SPACING	
	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD
P/2 < 30"	1"x 22 GA.	10 GA. (0.135")	1"x 22 GA.	10 GA. (0.135")	1"x 22 GA.	12 GA. (0.108")	1"x 22 GA.	12 GA. (0.108")
P/2 < 72"	1"x 18 GA.	3/8"	1"x 20 GA.	1/4"	1"x 22 GA.	1/4"	1"x 22 GA.	1/4"
P/2 < 96"	1"x 16 GA.	3/8"	1"x 18 GA.	3/8"	1"x 20 GA.	3/8"	1"x 22 GA.	1/4"
P/2 < 120"	1-1/2"x 16 GA.	1/2"	1"x 16 GA.	3/8"	1"x 18 GA.	3/8"	1"x 20 GA.	1/4"
P/2 < 168"	1-1/2"x 16 GA.	1/2"	1"x 16 GA.	1/2"	1"x 16 GA.	3/8"	1"x 18 GA.	3/8"
P/2 < 192"	-	1/2"	1-1/2"x 16 GA.	1/2"	1"x 16 GA.	3/8"	1"x 16 GA.	3/8"

ROUND DUCT HANGER SCHEDULE

DIAMETER	MAXIMUM SPACING	WIRE	ROD	STRAP
10" OR LESS	12'	-	1/4"	1"x 22 GA.
11"-18"	12'	-	1/4"	1"x 22 GA.
19"-24"	12'	-	1/4"	1"x 22 GA.
25"-36"	12'	-	3/8"	1"x 20 GA.
37"-50"	12'	-	TWO 3/8"	TWO 1"x 20 GA.
51"-60"	12'	-	TWO 3/8"	TWO 1"x 18 GA.
61"-84"	12'	-	TWO 3/8"	TWO 1"x 16 GA.

NOTES:
1. TYPICAL FOR PIPING SYSTEMS WITH OPERATING TEMPERATURES LESS THAN 250°F.
2. TYPICAL FOR FIRE-RATED WALLS.

6 DUCT HANGER SCALE NONE

CODE REVIEW:

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Certificate of Authorization: 24CA2853200

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FOR CODE REVIEW: 08/31/2020

REVISIONS:

REVISION NAME	DATE

FOR BID: 08/31/2020

DRAWING TITLE:

MECHANICAL PLANS, DETAILS, AND SCHEDULES

COMMISSION NUMBER:
20U008

AGENCY NUMBER:

DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:
M.I.I

ELECTRICAL ABBREVIATION	
ABBREVIATION	DESCRIPTION
A	AMPERE
AC	ALTERNATING CURRENT
AF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ARF	ABOVE RAISED FLOOR
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CH	ABOVE CURTAIN HEIGHT
CKT	CIRCUIT
D/S	DISCONNECT SWITCH
E	EXISTING
EC	ELECTRICAL CONDUIT
EMT	ELECTRIC METALLIC TUBING
EPO	EMERGENCY POWER OFF PUSHBUTTON
ER	EXISTING TO BE RELOCATED
FACP	FIRE ALARM CONTROL PANEL
G	GROUND
GF	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSE POWER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT - AMPERE
KW	KILOWATT
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUGS ONLY
N	NEW
NC	NOT IN CONTRACT
N/L	NIGHT LIGHT
Ø	PHASE
PNL	PANEL
PVC	POLY VINYL CHLORIDE CONDUIT
R	RELOCATED IN NEW POSITION
RGS	RIGID GALVANIZED STEEL CONDUIT
SW	SWITCH
SWB	SWITCHBOARD
TBB	TELEPHONE/DATA BACKBOARD
TSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UGCATV	UNDERGROUND CABLE TV
UGE	UNDERGROUND ELECTRICAL
UGT	UNDERGROUND TELEPHONE
UON	UNLESS OTHERWISE NOTED
V	VOLT
WP	WEATHERPROOF (NEMA RATED) (WHILE IN USE)
XMFR	TRANSFORMER

ELECTRICAL SYMBOL (LIGHTING)	
SYMBOL	DESCRIPTION
	CEILING OR PENDANT MOUNTED FIXTURE AND OUTLET. A = FIXTURE TYPE, Ø = SWITCH CONTROL, 3 = CIRCUIT NUMBER (TYPICAL FOR ALL FIXTURES)
	FIXTURE DESIGNATED WITH A SLASH OR THE LETTERS "EM" SHALL BE PROVIDED WITH A BUILT IN BATTERY. U.O.N. EMERGENCY BATTERY BALLAST SHALL BE SUITABLE TO POWER AN LED BOARD OR TWO LAMPS @ NOMINAL 1300 LUMENS TOTAL FOR 90 MINUTES. EMERGENCY BATTERY SENSING CIRCUIT SHALL BE CONNECTED AHEAD OF SWITCH OR SENSOR CONTROL.
	INDUSTRIAL OR STRIP FIXTURE
	ANY SURFACE OR RECESSED LIGHT FIXTURE WITH A SLASH OR THE LETTER "TM" SHALL BE PROVIDED WITH A BUILT IN BATTERY. EMERGENCY BATTERY BALLAST SUITABLE TO POWER LED BOARD OR TWO LAMPS @ NOMINAL 408 LUMENS OUTPUT TOTAL FOR 90 MINUTES. EMERGENCY BATTERY SENSING CIRCUIT SHALL BE CONNECTED AHEAD OF SWITCH OR SENSOR CONTROL.
	WALL WASH FIXTURE
	WALL MOUNTED FIXTURE
	POLE MOUNTED SITE FIXTURE
	CEILING MOUNTED EXIT SIGN, WALL MOUNTED EXIT SIGN - 90° TO BOTTOM OF SIGN OR CENTERED ON WALL AREA BETWEEN TOP OF DOOR AND CEILING. ARROWS AS INDICATED. SHADED AREA INDICATES FACE(S). MANUFACTURER IS CHLORIDE #CLXNRW (EDGE-LITE # #2644RLU)-(SEE PLAN FOR MOUNTING)-1/2-R-(SEE PLANS FOR DIRECTIONAL INDICATORS). CONTRACTOR SHALL FURNISH AND INSTALL (2) ADDITIONAL EXIT SIGNS FOR INSTALLATION AS DIRECTED IN FIELD.
	LED EXIT SIGN WITH BATTERY PACK AND LOCAL EMERGENCY HEADS - TYPICAL. MANUFACTURER IS CHLORIDE #CCLXLRW. WIRE TO LOCAL CIRCUIT AHEAD OF SWITCHING. U.O.N.
	BATTERY OPERATED EMERGENCY LIGHTING. MANUFACTURER IS CHLORIDE #CAXENH. 90° TO BOTTOM OF FIXTURE OR CENTERED ON WALL AREA BETWEEN TOP OF DOOR AND CEILING. (90 MINUTE MINIMUM CAPACITY) WIRE TO LOCAL CIRCUIT AHEAD OF SWITCHING. U.O.N.
	WEATHERPROOF EMERGENCY FLOOD LIGHT, DUAL-LITE #PG-W/2/P/B-HTR. (8"-Ø)WFG (U.O.N.). WIRE TO LOCAL CIRCUIT AHEAD OF SWITCHING. U.O.N.
	FLOOD LIGHT, WIRE TO LOCAL CIRCUIT AHEAD OF SWITCHING. U.O.N.
	EMERGENCY BATTERY PACK ABOVE CEILING (WHERE APPLICABLE) DUAL-LITE #AS-180-12V-0. (90 MINUTE MINIMUM CAPACITY) WIRE TO LOCAL CIRCUIT AHEAD OF SWITCHING WITH 2/12, 1Ø120, (U.O.N.).
	REMOTE TEST SWITCH WITH LED MOUNTED IN SINGLE GANG STAINLESS STEEL FACE PLATE ON CEILING(U.O.N.).

ELECTRICAL SYMBOL (COMMUNICATION)	
SYMBOL	DESCRIPTION
	DATA OUTLET: 2-GANG DEEP BACK BOX WITH 2 POSITION FACEPLATE; PROVIDE 1-1/4" TO HUNG CEILING SPACE. FROM EACH OUTLET PROVIDE TWO CAT 6 WIRES TO THE IT BACK IN THE TECH CLOSET AND TERMINATE WITH SLACK ON A RAIN MODULAR CONNECTOR. LABEL BOTH FACEPLATE AND PUNCH DOWN IN IT BACK. BACK BOX CENTERED 18" AFF. SLASH THROUGH DEVICE OR "CH" NEXT TO DEVICE INDICATES BACK BOX CENTER 44" AFF.

ELECTRICAL SYMBOL (COMMUNICATION)	
SYMBOL	DESCRIPTION
	WALL MOUNTED SYSTEM CLOCK (PROVIDE 120V POWER SOURCE) @ 90" AFF (COORDINATE LOCATION WITH ARCHITECT, U.O.N.)
	RECESSED CEILING SPEAKER, WALL MOUNTED SPEAKER (BACKBOX WHERE REQUIRED) WITH 3/4" CONDUIT TO NEAREST ACCESSIBLE CEILING, CREATING A COMPLETE PATH TO THE LOCAL HEAD END EQUIPMENT WITH PULLSTRING. (COORD. WITH OWNER).
	COMBINATION SYSTEM CLOCK/LOUDSPEAKER (PROVIDE 120V POWER SOURCE) @ 90" AFF (COORDINATE WITH ARCHITECT, U.O.N.)
	INTERCOM
	INTERCOM MASTER
	MICROPHONE
	DATA OUTLET CEILING MOUNTED; 2-GANG DEEP BACK BOX WITH BLANK FACEPLATE; CABLE TYPE AND CONFIGURATION PER SYMBOL.
	DATA OUTLET JUNCTION BOX WITH 3/4" WITH PULL WIRE TO ABOVE NEAREST ACCESSIBLE CEILING SPACE OR WHERE THERE IS NO ACCESSIBLE CEILING, PROVIDE COMPLETE RACEWAY BACK TO EQUIPMENT, REFER TO PLANS OR COORDINATE WITH OWNER.
	TV MONITOR OUTLET & RECEPTACLE: 1-GANG DEEP BACK BOX WITH BLANK FACEPLATE; 1-1/4" WITH PULL WIRE TO ABOVE NEAREST ACCESSIBLE CEILING SPACE OR WHERE THERE IS NO ACCESSIBLE CEILING, PROVIDE COMPLETE RACEWAY BACK TO CATV HEAD END AND PULLING; REFER TO PLANS OR COORDINATE WITH OWNER.

ELECTRICAL SYMBOL (DEVICES)	
SYMBOL	DESCRIPTION
	SINGLE RECEPTACLE; 20 AMP, 125 VOLT, 2P, 3W, NEMA 5-20R U.O.N. (SPECIALTY TYPE AS NOTED - A, B, C, ETC. SEE SPECIALTY SCHEDULE) (MOUNTED AT SAME HEIGHT AS DUPLEX, U.O.N.)
	DUPLEX CONVENIENCE RECEPTACLE; 20 AMP, 125 VOLT, 2P, 3W, NEMA 5-20R, MOUNTED 1'-4" AFF TO CENTER. U.O.N. #/A - DENOTES CIRCUIT NUMBER. CH = 48" AFF OR 6" ABOVE BACK SPLASH. U.O.N.
	DUPLEX RECEPTACLE, MOUNTED 48" AFF OR 6" ABOVE BACK SPLASH. U.O.N.
	GROUND FAULT RECEPTACLE; ALL EXTERIOR RECEPTACLES WITH "WP" DENOTES ON THEM TO BE WEATHER-RESISTANT GFCI TYPE IN WEATHERPROOF BOX WITH COVER.
	GROUND FAULT RECEPTACLE; MOUNTED 48" AFF OR 6" ABOVE BACK SPLASH. U.O.N.
	DOUBLE DUPLEX RECEPTACLE (QUAD); CH = MOUNTED 48" AFF OR 6" ABOVE BACK SPLASH. U.O.N.
	DUPLEX RECEPTACLE MOUNTED IN CEILING FOR PROJECTOR OR OTHER DEVICE.
	PLUG LOAD DUPLEX RECEPTACLE - HALF SWITCHED (CONTROLLED VIA OCCUPANCY SENSORS); MOUNTED 18" AFF, OR IF DESIGNATED "CH" = MOUNTED 48" AFF. U.O.N.
	COMBINATION DUPLEX RECEPTACLE AND USB CHARGER; MOUNTED 18" AFF, OR IF DESIGNATED "CH" = MOUNTED 48" AFF. U.O.N.
	SWITCHED DUPLEX RECEPTACLE
	ISOLATED GROUND RECEPTACLE

ELECTRICAL SYMBOL (DEVICES)	
SYMBOL	DESCRIPTION
	CONTINUOUS SURFACE MOUNTED SINGLE-CHANNEL RACEWAY; COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS OR WITH OWNER IN FIELD PRIOR TO INSTALLATION. U.O.N. PROVIDE WIREMOLD SERIES 5000 OR EQUAL.
	CONTINUOUS SURFACE MOUNTED DUAL-CHANNEL RACEWAY; COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS OR WITH OWNER IN FIELD PRIOR TO INSTALLATION. U.O.N. PROVIDE WIREMOLD SERIES 4000 OR EQUAL.
	RECESSED IN-FLOOR BOX FOR POWER, #80C31-NA-OMNIBOX SERIES CAST-IRON FLOOR BOX, WITH DUPLEX RECEPTACLE, 818RAL FLANGE AND 828R-TOTAL DUPLEX COVER PLATE
	RECESSED IN-FLOOR BOX FOR POWER, #80C32-NA-OMNIBOX SERIES CAST-IRON FLOOR BOX, WITH (2) DUPLEX RECEPTACLE, 828TAL AND (2) 828R-TOTAL DUPLEX COVER PLATE
	EVOLUTION SERIES 6" POKE-THRU (OR APPROVED EQUAL) WITH (2) DUPLEX RECEPTACLE AND DATA JACKETS. COORDINATE ALL DATA REQUIREMENTS WITH (OWNER/IT). PROVIDE (1) 1-1/4" CONDUIT WITH DRAG WIRE FROM TELE/DATA SECTION UP WALL TO ACCESSIBLE CEILING SPACE OR BACK TO IT" LOCATION.
	RECESSED IN-FLOOR BOX; WIREMOLD OMNIBOX #80C31-1 WITH FLANGE #817B, RECEPTACLE COVER PLATE #828R, TELE/DATA COVERPLATE (WHERE APPLICABLE) #828TC AND DUPLEX RECEPTACLE. TELE/DATA JACKS BY OTHERS. FOLLOW COT REQUIREMENT FOR TYPICAL DEVICE. U.O.N. FLANGE & COVER COLOR SHALL BE AS SELECTED BY ARCHITECT.
	RAISED FLOOR POWER/DATA ACTIVATION BOX
	RECESSED IN-FLOOR BOX FOR POWER-TELE/DATA-VGA, #80C33-1-OMNIBOX SERIES CAST-IRON FLOOR BOX, WITH DUPLEX RECEPTACLE, 818RAL FLANGE AND 828R-TOTAL DUPLEX COVER PLATE AND (2) 830C7CAL COMMUNICATION COVER PLATE. PROVIDE (2) 1" CONDUIT WITH DRAG WIRE FROM TELE/DATA & VGA SECTIONS UP WALL TO ACCESSIBLE CEILING SPACE.
	RECESSED IN FLOOR BOX-WALKER OMNIBOX #80C31-1 WITH FLANGE #817B, COVER PLATE #828R, AND DUPLEX RECEPTACLE WITH FURNITURE FEEDS. WHIPS TO FURNITURE AND FINAL TERMINATION BY ELECTRICAL CONTRACTOR
	RECESSED IN FLOOR BOX-WALKER OMNIBOX #80C31-1 WITH FLANGE #817B, COVERPLATE #828TC, WITH FURNITURE FEEDS, TELE/DATA JACKS BY OTHERS. 1" COT RUN TO 4" ABOVE CONCEALED CEILING SPACE WITH PULL STRING. PROVIDE (1) 1" CONDUIT WITH DRAG WIRE UP WALL TO ACCESSIBLE CEILING SPACE.
	SYSTEMS FURNITURE - JUNCTION BOX WALL FEED FOR POWER. WHIPS TO FURNITURE AND FINAL TERMINATION BY ELECTRICAL CONTRACTOR
	SYSTEMS FURNITURE - JUNCTION BOX WALL FEED FOR TELE/ DATA, 1" COT RUN TO 6" ABOVE CONCEALED CEILING SPACE WITH PULL STRING.
	SYSTEMS FURNITURE - POKE-THROUGH FLOOR FEED FOR POWER. WALKER #RC7AFTTC. WIRES FROM BELOW.
	SYSTEMS FURNITURE - POKE-THROUGH FLOOR FEED FOR TELE/DATA. WALKER #RC7AFTTC WITH COMSD ADAPTER. WIRES FROM BELOW.
	POWER POLE WITH POWER AND DATA RACEWAY, ACTIVATION COMPONENTS AND ACCESSORIES.

ELECTRICAL SYMBOL (SYSTEMS)	
SYMBOL	DESCRIPTION
	EMERGENCY POWER OFF (COVERED) - LIFT COVER, PUSH BUTTON.
	MONITOR
	DOOR STATUS SWITCH
	CARD READER-PROXIMITY SENSORS - 3/4" CONDUIT WITH PULL-WIRE FROM ACCESSIBLE CEILING TO DOOR BUCK.
	MAGNETIC DOOR LOCK
	PALM READER
	REQUEST TO EXIT PUSHBUTTON
	HAND DRYER
	CAMERA WALL MTD., CEILING MTD. - 4"x4" J-BOX AND 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE WITH PULL-WIRE.
	EMERGENCY SHUT DOWN PUSH BUTTON (COORDINATE WITH MECHANICAL CONTRACTOR) (BG = BREAK GLASS) (SQ. D #KR9RH13) 48" AFF
	PUSH-BUTTON UP/DOWN/STOP

ELECTRICAL SYMBOL (DEVICES)	
SYMBOL	DESCRIPTION
	LIGHT FIXTURE, A=LIGHTING FIXTURE TYPE AND #=CIRCUIT NUMBER
	SINGLE POLE 20A, TOGGLE TYPE SWITCH MOUNTED 4'-0" AFF TO TOP. SUBLETTER "A" DENOTES FIXTURE CONTROLLED. U.O.N. (LOW VOLTAGE WHERE APPLICABLE).
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	DIMMER SWITCH, TYPE TO MATCH LAMP, SINGLE OR MULTIPLE LOCATION. U.O.N.
	KEY OPERATED WALL SWITCH
	WALL SWITCH - VACANCY/OCCUPANCY SENSOR; PASSIVE INFRARED; WATSTOPPER PW-100 OR EQUAL.
	SWITCH WITH PILOT LIGHT
	WALL SWITCH - DIGITAL TIMER; WATSTOPPER TS-400 OR EQUAL
	SINGLE POLE, SLIDE FAN SPEED CONTROLLER
	OCCUPANCY SENSOR - WALL MOUNTED; WATSTOPPER DT-200 OR EQUAL.
	OCCUPANCY SENSOR - CEILING MOUNTED; WATSTOPPER DT-300 OR EQUAL
	DAYLIGHTING SENSORS, DIMMING PHOTOSENSOR
	TIME CLOCK DIGITAL TIMELOCK WITH ASTRONOMICAL OPTION
	INTEGRAL DAYLIGHT SENSOR & CONTROLLER
	LIGHTING CONTROLLER

ELECTRICAL SYMBOL (FIRE ALARM)	
SYMBOL	DESCRIPTION
	FIRE ALARM MANUAL PULL STATION - 48" AFF. TO CENTER OF DEVICE. (SUBSCRIPT "WP" DENOTE WEATHERPROOF)
	COMBINATION FIRE ALARM BELL OR HORN/STROBE (ADA AS PER SPECIFICATIONS - 80" AFF TO BOTTOM OF DEVICE, 15 CANDELA IN CORRIDORS, 110 CANDELA ELSEWHERE. U.O.N. (TYPICAL). (SUBSCRIPT "WP" DENOTE WEATHERPROOF)
	COMBINATION FIRE ALARM HORN OR SPEAKER/STROBE - 80" AFF TO BOTTOM OF DEVICE, 15 CANDELA IN CORRIDORS, 110 CANDELA ELSEWHERE. U.O.N. (TYPICAL). (SUBSCRIPT "WP" DENOTE WEATHERPROOF)
	FIRE ALARM STROBE (ADA - 80" AFF TO BOTTOM OF DEVICE. 15 CANDELA IN CORRIDORS, 110 CANDELA ELSEWHERE. U.O.N. (TYPICAL).
	COMBINATION FIRE ALARM HORN OR SPEAKER/STROBE - CEILING MOUNTED. 15 CANDELA IN CORRIDORS, 110 CANDELA ELSEWHERE. U.O.N.
	FIRE ALARM STROBE - CEILING MOUNTED. 15 CANDELA IN CORRIDORS, 110 CANDELA ELSEWHERE. U.O.N.
	MANUAL PULL STATION GUARD - STI STOPPER II OR EQUAL W/ HORN (SUBSCRIPT "WP" DENOTE WEATHERPROOF)
	FIRE ALARM SMOKE DETECTOR (PHOTOELECTRIC U.O.N.), CEILING MOUNTED. (SUBSCRIPT "EL" DENOTES ELEVATOR RECALL) (SUBSCRIPT "U" DENOTES UNDER FLOOR)
	FIRE ALARM HEAT DETECTOR - FIXED TEMP. U.O.N. (SUBSCRIPT "HT" DENOTES FIXED HIGH TEMPERATURE (190 DEGF)) (SUBSCRIPT "AC" DENOTES ABOVE CEILING)
	CARBON MONOXIDE DETECTOR
	COMBINATION CARBON MONOXIDE/SMOKE DETECTOR
	FIRE ALARM DUCT SMOKE DETECTOR W/ REMOTE INDICATOR
	FIRE SMOKE DAMPER WITH FAN SHUTDOWN MODULE
	BEAM DETECTOR
	BEAM DETECTOR REFLECTOR
	SPRINKLER WATER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	FIRE ALARM PANEL
	FIRE ALARM REMOTE ANNUNCIATOR
	FIRE ALARM GRAPHIC ANNUNCIATOR
	WATER DETECTOR
	MONITOR MODULE
	CONTROL MODULE
	DOOR HOLDER

ELECTRICAL SYMBOL	
SYMBOL	DESCRIPTION
	JUNCTION BOX, CEILING OR WALL MOUNTED AS NOTED, ELECTRICAL CONTRACTOR TO MAKE ALL REQUIRED CONNECTIONS TO DESIGNATED EQUIPMENT.
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH W/FUSE RATING
	STARTER
	MOTOR
	MANUAL MOTOR STARTER (THERMAL ELEMENT)
	PANEL BOARD
	TRANSFORMER
	METER
	GROUND ROD OR AS NOTED ON DRAWING OR DETAIL
	EXPOSED CONDUIT OR CABLE
	CONCEALED CONDUIT OR CABLE
	ELECTRICAL WIRING
	ITEMS TO BE DEMOLISHED OR REMOVED

SPECIAL PURPOSE RECEPTACLE LEGEND	
(MFR NUMBERS BY LEVITON-SPEC GRADE)	
	A. 30 AMP, 125 VOLT, 2P, 3W, RECP.#5371, NEMA 5-30R
	B. 20 AMP, 250 VOLT, 2P, 3W, RECP.#5461, NEMA 6-20R
	C. 30 AMP, 250 VOLT, 2P, 3W, RECP.#5372, NEMA 6-30R
	D. 50 AMP, 250 VOLT, 2P, 3W, RECP.#5374, NEMA 6-50R
	E. 30 AMP, 125/250 VOLT, 3P, 3W, RECP.#5207, NEMA 10-30R
	F. 50 AMP, 125/250 VOLT, 3P, 3W, RECP.#5206, NEMA 10-50R
	G. 30 AMP, 125/250 VOLT, 3P, 4W, RECP.#278, NEMA 14-30R
	H. 50 AMP, 125/250 VOLT, 3P, 4W, RECP.#279, NEMA 14-50R
	I. 30 AMP, 250 VOLT, 3P, 4W, RECP.#8430, NEMA 15-30R
	J. 20 AMP, 125 VOLT, 2P, 3W, RECP.#2310, NEMA L5-20R
	K. 30 AMP, 125 VOLT, 2P, 3W, RECP.#2610, NEMA L5-30R
	L. 20 AMP, 250 VOLT, 2P, 3W, RECP.#2320, NEMA L6-20R
	M. 30 AMP, 250 VOLT, 2P, 3W, RECP.#2620, NEMA L6-30R
	N. 30 AMP, 250 VOLT, 3P, 4W, RECP.#2720, NEMA L15-30R
	O. 20 AMP, 120/208 VOLT, 4P, 5W, RECP.#2510, NEMA L21-20R

LIGHTING CONTROL LEGEND	
	DIGITAL WALL SWITCH, LOW VOLTAGE, 4-BUTTON TWO ZONE -ON/OFF COLOR SELECTED BY ARCHITECT
	DUAL TECHNOLOGY OCCUPANCY SENSOR, PROVIDE POWER RELAY/PACK AS REQUIRED.

Lighting Fixture Schedule							
Type	Description	Manufacturer	Model Number	Lamp	Voltage	Wattage	Remarks
A	LED RECESSED 2'X2 TROFFER	SIGNIFY DAY-BRITE	2EVS4SL 840 2 R UNV DM	LED	UNV	39	0-10V DIMMING
B	EXTERIOR WALL MOUNTED FIXTURE	LITHONIA	CSXW LED 300 700 40K T4M 120 PE	LED	120	69	WITH PHOTOELECTRIC CELL FOR CONTROL
C	CONTINUOUS RECESSED LINEAR FIXTURE MOUNTED IN SOFFIT	MARK LIGHTING	SL2L LOP CONTINUOUS RUN WITH CORNERS FLP FL 80CRI 35K 800LMP WW MINI 120 CBA nLIGHT WL	LED	120	8WFT	DIMMABLE SLOT FIXTURE SUITABLE FOR WET LOCATIONS
XEM	LED EXITALED EMERGENCY LIGHT COMBO	CHLORIDE	VLTOR3R	LED	UNV	3	LED EXITLED EMERGENCY LIGHT COMBO, SELF DIAGNOSTICS

1. COORDINATE ALL LIGHT FIXTURE SELECTIONS WITH OWNER/ARCHITECT. PROVIDE ALL REQUIRED MOUNTING BRACKETS, HARDWARE, TRANSFORMERS, POWER SUPPLIES, ETC AS REQUIRED.

ELECTRICAL DRAWING LIST	
DWG #	DRAWING TITLE
EO.1	ELECTRICAL - SYMBOLS & ABBREVIATIONS
EO.2	ELECTRICAL - NOTES & SPECIFICATIONS
E1.0	ELECTRICAL - SITE PLANS & DETAILS
E1.1	ELECTRICAL - FLOOR PLANS & DETAILS

CODE REVIEW:

CERTIFICATE:



SPIEGLE ARCHITECTURAL GROUP INC.
1395 Yardville Hamilton Square Road
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HAMILTON, NJ 08601
Phone: 609-695-7400

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CONSULTANTS:
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Certificate of Authorization: 26A0853200

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J&U Project # 20-063

Mark E. Lonergan, P.E.
NJ License #2400401800

PROJECT:

PUBLIC SAFETY
BUILDING

5100 E BLACK HORSE PIKE, MAYS
LANDING, NJ 08330

FOR

ATLANTIC CAPE
COMMUNITY
COLLEGE

5100 E BLACK HORSE PIKE, MAYS
LANDING, NJ 08330

FOR CODE REVIEW: 08/31/2020

REVISIONS:

REVISION NUMBER	REVISION NAME	DATE

FOR BID: 08/31/2020

DRAWING TITLE:

ELECTRICAL
SYMBOLS &
ABBREVIATIONS

COMMISSION NUMBER:

20U008

AGENCY NUMBER:

##

DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:

EO.1

ELECTRICAL GENERAL NOTES	
1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE NATIONAL ELECTRICAL CODE, NFPA, IBC, UCC, NATIONAL ELECTRIC SAFETY AND LOCAL CODES.	27. WHERE ELECTRICAL EQUIPMENT (I.E. SWITCHBOARDS, PANELBOARDS, BUS DUCTS, TRANSFORMERS, DISCONNECTS, ETC.) OR SYSTEMS (I.E. FIRE ALARM, SOUND, INTERCOMMUNICATIONS, ALARM, ETC.) IS INDICATED TO BE MODIFIED TO ACCEPT NEW WORK, SAID MODIFICATIONS SHALL BE PERFORMED BY ELECTRICAL EQUIPMENT FABRICATORS OR MANUFACTURER'S REPRESENTATIVES WHO CAN AFFECT SUCH MODIFICATIONS WITHOUT VOIDING THE U.L. LABEL OR MANUFACTURER'S WARRANTIES.
2. DRAWINGS ARE DIAGRAMMATIC AND DEFINE THE INTENT OF THE WORK. LOCATIONS OF EQUIPMENT, FIXTURES, DEVICES, PANELBOARDS, DUCTS, PIPING, DIFFUSERS, PARTITIONS, OPENINGS, ETC. ARE APPROXIMATE AND ARE SUBJECT TO MODIFICATIONS CAUSED BY STRUCTURAL CONDITIONS AND EQUIPMENT PROVIDED BY OTHER CONTRACTORS, SUBCONTRACTORS OR THE OWNER. COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES. DETERMINE ROUTING LOCATIONS FROM APPROVED SHOP DRAWINGS. MINOR MODIFICATIONS OF LOCATIONS REQUIRED TO EFFECT SUCH COORDINATION SHALL BE MADE AT NO COST TO THE OWNER.	28. IT SHALL BE THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR TO LOCATE ALL UNDER-SLAB CONDUITS PRIOR TO STARTING ANY WORK THAT MAY CONFLICT WITH THE PROJECT IN HAND.
3. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLEMENTARY TO EACH OTHER. WHERE DISCREPANCIES OR CONFLICTS OCCUR, THE CONTRACTOR SHALL INCLUDE THE MORE COSTLY METHOD IN HIS PROPOSAL UNLESS CLARIFIED BY BULLETIN OR ADDENDUM ACKNOWLEDGED PRIOR TO RECEIPT OF BIDS.	29. IN THE EVENT ANY OF THE WIRE AND CONDUIT THAT IS EXISTING TO REMAIN NEEDS TO BE REPLACED, THE CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR WIRE AND CONDUIT.
4. REFER TO MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR EXACT LOCATIONS OF ALL MECHANICAL AND PLUMBING/FIRE PROTECTION EQUIPMENT. THE CONTRACTOR MUST HAVE THE MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS OF EQUIPMENT AND CONTROL WIRING REQUIREMENTS. ONLY POWER FEEDER TO MECHANICAL EQUIPMENT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR MECHANICAL AND PLUMBING EQUIPMENT UNLESS SPECIFIED ON MECHANICAL OR PLUMBING DRAWINGS TO BE SUPPLIED BY MANUFACTURER. PROVIDE FUSED SWITCHES WHEREVER MANUFACTURER REQUIRES THEM.	30. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES OR LOCKABLE BREAKER FOR PERMANENTLY CONNECTED APPLIANCES PER NEC 422-III. PROVIDE GFI RECEPTACLE OR CIRCUIT BREAKER FOR ALL HAND DRYERS AND/OR VENDING MACHINES. U.O.N.
5. ALL TELEPHONE AND DATA WIRING IS BY THE OWNER. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER'S REP AND PROVIDE ALL NECESSARY RACEWAYS, BACK BOXES, PULL-STRINGS, ETC.	31. ALL CABLE MUST BE SUPPORTED ABOVE THE CEILING APPROXIMATELY EVERY (4) TO (6) FEET. USAGE OF METALLIC D-RINGS AND DRIVE RINGS ARE PERMITTED. ALL CABLE TIES ABOVE THE CEILING MUST BE PLENUM RATED. ALL CABLES MUST BE NEATLY BUNDLED AND SUPPORTED IN A PROFESSIONAL MANNER. ANY CABLE RUNS IN EXPOSED PUBLIC VIEWING AREAS, I.E., CLASSROOMS, HALLWAYS, ETC., MUST BE ENCLOSED IN RACEWAY.
6. CONDUCTOR SIZES (PHASE AND GROUND) SHALL BE INCREASED DUE TO DE-RATING AND VOLTAGE DROP REQUIREMENTS AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING VOLTAGE DROP BASED ON THE FEEDER AND BRANCH CIRCUIT RUNS SUCH THAT THE TOTAL VOLTAGE DROP ON EACH RUN DOES NOT EXCEED 5% TOTAL. PROVIDE AND INSTALL SPLICE/TAP L-BOX BEFORE CONNECTION TO LOAD AND TRANSFER TO SMALLER CONDUCTORS (PER CODE) FOR CONNECTION TO DEVICE TERMINALS WHERE REQUIRED.	32. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES OF ALL VRF SYSTEM BRANCH BOXES. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR EQUIPMENT, UNLESS SPECIFIED ON MECHANICAL DRAWINGS TO BE SUPPLIED BY MANUFACTURER. CIRCUIT VRF SYSTEM BRANCH BOXES TO NEAREST SPARE 2P/20A, 208V CIRCUIT BREAKER WITH 2#12, 1#12G IN 3/4"x4" UN.
7. ALL NEW ELECTRICAL SYSTEMS, INCLUDING LIGHTING, CONDUIT, PANELS, ETC., SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.	33. ALL RECEPTACLES WITH-IN THE KITCHEN AREA SHALL COMPLY WITH NEC ARTICLE 210.8(B)(2)
8. PROVIDE ALL SAFETY SWITCHES AS SHOWN ON THE DRAWINGS AND/OR AS REQUIRED BY NEC FOR MOTOR, APPLIANCE AND ELECTRIC HEAT EQUIPMENT DISCONNECTION. ALL DISCONNECT SWITCHES SHALL BE LOCAL TO THE EQUIPMENT THEY ARE SERVING AND SHALL BE LOCKABLE IN THE "ON" OR "OFF" POSITION. LOCKABLE CIRCUIT BREAKERS SHALL NOT BE ACCEPTABLE.	34. REFER TO KITCHEN CONSULTANT DRAWING FOR DESCRIPTION, MOUNTING HEIGHT AND LOCATION OF ALL ELECTRICAL CONNECTIONS. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR PERMANENTLY CONNECTED APPLIANCES PER NEC 422-III. UNLESS SPECIFIED ON KITCHEN CONSULTANT DRAWINGS TO BE SUPPLIED BY MANUFACTURER.
9. PANEL BOARD LOCKS SHALL BE KEYS IN ACCORDANCE TO OWNER REQUIREMENTS.	35. CONTRACTOR SHALL PROVIDE EMERGENCY RESPONDER RADIO COVERAGE IN ALL NEW BUILDINGS IN ACCORDANCE WITH SECTION 510 OF THE INTERNATIONAL FIRE CODE. CONTRACTOR SHALL OBTAIN AND PAY FOR THE SERVICES OF A SYSTEM DESIGNER WITH AN FCC ISSUED GENERAL RADIO OPERATORS LICENSE WITH CERTIFICATION OF IN-BUILDING SYSTEM TRAINING ISSUED BY A NATIONALLY RECOGNIZED ORGANIZATION, SCHOOL, OR A CERTIFICATE ISSUED BY THE MANUFACTURER OF THE EQUIPMENT BEING INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF IFC 510.5.2. THE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM SHALL BE PROVIDED WITH BATTERIES CAPABLE OF OPERATING THE SYSTEM FOR 12 HOURS IN ACCORDANCE WITH IBC 2702.2.3.
10. SEPARATE NEUTRALS SHALL BE RUN FOR ALL CIRCUITS UTILIZING SWITCH MODE POWER SUPPLIES (E.G. COMPUTERS, FLUORESCENT LIGHTING, ETC.).	36. ELECTRICAL CONTRACTOR SHALL REMOVE ALL WIRING BACK TO SOURCE AND REUSE ALL EXISTING CONDUIT. ELECTRICAL CONTRACTOR SHALL BE FULLY RESPONSIBLE TO RE-SCOPE ALL UNDERGROUND CONDUITS RUNS PRIOR TO RUNNING NEW FEEDERS TO ENSURE CONDUITS ARE REUSABLE. IF ELECTRICAL CONTRACTOR DETERMINES THAT A CERTAIN CONDUIT RUN IS IN DISREPAIR BEING IT UNUSABLE ELECTRICAL CONTRACTOR SHALL CONTACT OWNER IMMEDIATELY BEFORE PROCEEDING. ENGINEER SHALL VISIT SITE WITH IN 24HRS TO CONFIRM. ELECTRICAL CONTRACTOR SHALL PROVIDE THREE SEPARATE UNIT COST FOR 10' INCREMENTS OF CONDUIT REPAIR FOR GRASS AREAS, ASPHALT/CONCRETE AREAS AND AREA WITH LANDSCAPING STONES. (CONDUIT ROUTING SHOWN DOES NOT REPRESENT ACTUAL ROUTE, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ACTUAL ROUTING ON SITE).
11. AS-BUILTS SHALL BE PROVIDED WITHIN 30 DAYS OF SYSTEM ACCEPTANCE, INCLUDING BUT NOT LIMITED TO SINGLE-LINE OF ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLAN WITH LOCATIONS OF DISTRIBUTION EQUIPMENT AND AREAS SERVED BY THAT EQUIPMENT. (ASHRAE STANDARD 90.1-2013.)	37. AMERICAN MANUFACTURED PRODUCTS SHALL BE USED WHERE POSSIBLE FOR ALL WORK IN ACCORDANCE WITH NJAC 40A:11-18. CONTRACTOR SHALL VERIFY THAT ALL SUBMITTED EQUIPMENT FOR ALL CONTRACTS FOR COUNTY OR MUNICIPAL WORK OR FOR WORK FOR WHICH IT WILL PAY ANY PART OF THE COST, OR WORK WHICH BY CONTRACT OR ORDINANCE IT WILL ULTIMATELY OWN AND MAINTAIN, THAT ONLY MANUFACTURED PRODUCTS OF THE UNITED STATES, WHEREVER AVAILABLE, BE USED IN SUCH WORK. ANY SUBSTITUTIONS OF BASIS OF DESIGN EQUIPMENT SHALL CONFORM TO THE ABOVE NOTED REQUIREMENTS.
12. O & M MANUALS MUST BE PROVIDED FOR THE ELECTRICAL DISTRIBUTION SYSTEM, INCLUDING BUT NOT LIMITED TO NAMEPLATE RATINGS, SCHEDULED MAINTENANCE, SPECIFIC EQUIPMENT SUPPLIED, NAMES AND ADDRESSES OF QUALIFIED SERVICE PERSONNEL, COMPLETE NARRATIVE AND SCHEMATIC OF SYSTEM IN NORMAL OPERATION. (ASHRAE STANDARD 90.1-2013.)	
13. RELOCATE EXISTING JUNCTION BOXES, PULL/SPLICE BOXES, ETC. WHICH REQUIRE ACCESS THAT WILL BE BLOCKED BY NEW CONSTRUCTION (MECHANICAL AND ELECTRICAL). CONTRACTOR SHALL COORDINATE WITH FIELD CONDITIONS AND OTHER TRADES FOR NEW OR EXISTING ELECTRICAL ITEMS REQUIRING ACCESS LOCATED OVER C.W.B. OR OTHER UNACCESSIBLE CEILING. PROVIDE ACCESS PANELS TO BE LOCATED IN COORDINATION WITH ARCHITECT AND INSTALLED BY GC.	
14. DEVICE AND EQUIPMENT MOUNTING HEIGHTS ARE AS LISTED ON DRAWING AND/OR DESCRIBED IN SPECIFICATIONS UNLESS ITEMIZED BY ARCHITECTURAL DOCUMENTS.	
15. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO SUBMIT MEP COORDINATION DRAWINGS AS EARLY AS POSSIBLE IN THE CONSTRUCTION PERIOD.	
16. THE ELECTRICAL CONTRACTOR SHALL TRACE AFFECTED POWER PANEL BRANCH CIRCUITS IN CONTRACT AREAS TO DETERMINE WIRING CONFIGURATION OF AFFECTED AND SURROUNDING AREAS. ELECTRICAL CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS TO AID IN REWIRING CONTRACT AREAS IN COMPLIANCE WITH ENGINEERING DOCUMENTS, LOCAL CODES, AND ORDINANCES. PROVIDE FINISHES IN REPORT AND WITH TYPED UP DRAWINGS, TO THE ENGINEER AS SOON AS COMPLETED. NO REWIRING SHALL BEGIN UNTIL THIS STEP IS COMPLETED.	
17. AT COMPLETION OF ALL BRANCH WIRING DESCRIBED ON CONTRACT DOCUMENTS, ELECTRICAL CONTRACTOR SHALL COMPLETE A LIST OF EXISTING AND NEW CIRCUITS TO PROVIDE A FULL PANEL SCHEDULE DIRECTORY WITH DEVICE NAME (LIGHTING, RECEPTACLES, EQUIPMENT, ETC.) AND ROOM NUMBERS BEING SERVED. LABEL ALL CIRCUIT BREAKERS NOT BEING USED AS SPARE AND REMOVE CONDUCTORS FROM PANEL BOARD AND CONDUITS.	
18. ELECTRICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL AND MECHANICAL DRAWINGS TO UNDERSTAND THE EXTENT OF LIGHTING FIXTURE REMOVAL AND REPLACEMENT TO ACCOMMODATE OUT OF CONTRACT AREAS THAT ARE AFFECTED IN SYSTEMS CONSTRUCTION.	
19. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK.	
20. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED GRID TILE THAT MIGHT OCCUR DURING DEMOLITION AND/OR RE-INSTALLATION OF THE EXISTING CEILING AND/OR CEILING MOUNTED DEVICES. NEW GRID/TILES TO MATCH EXISTING. PATCH AND REPAIR ALL DAMAGE CAUSED BY REMOVAL, MATCH EXISTING ADJACENT FINISH.	
21. ALL FIRE ALARM WORK MUST BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF NFPA 72 AND IBC NJ. CONTRACTOR TO PROVIDE ALL SHOP DOCUMENTATION IN ACCORDANCE WITH IBC NJ 907.1.1 & NFPA 72.	
22. ALL SWITCHES AND RECEPTACLES SHALL BE LABELED WITH CIRCUIT NUMBER(S) AND PANEL OF ORIGIN. UTILIZE AN ELECTRONIC LABEL MAKER (E.G. DYMO OR EQUAL) WITH BLACK LETTERS/NUMBERS ON A CLEAR BACKGROUND.	
23. ALL 125 VOLT, SINGLE PHASE, 15- AND 20- AMPERE SINGLE AND DUPLEX RECEPTACLES WHICH DO NOT SERVE A DEDICATED APPLIANCE AND ARE WITHIN A 6 FOOT RADIUS OF A SINK, ARE INSTALLED IN WET LOCATIONS, ARE INSTALLED IN BATHROOMS, LAUNDRY AREAS, GARAGES, DISHWASHERS, ON ROOFS, OR OUTDOORS WITH DIRECT GRADE ACCESS, SHALL BE GROUND FAULT CIRCUIT INTERRUPTING TYPE WHERE AVAILABLE OR SHALL BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTING CIRCUIT BREAKERS.	
24. APPLY U.L. APPROVED FIRE STOPPING ("SM" FIRE STOP SEALANT 2000 AND/OR "SM" FIRE BARRIER CP25 WB) TO ALL PENETRATIONS OF FIRE RATED FLOORS, WALL AND CEILING ASSEMBLIES. RATING MUST RE-ESTABLISH THE ORIGINAL FIRE RESISTANCE.	
25. PROVIDE A MINIMUM OF 6" OF SEPARATION BETWEEN OUTLET BOXES THAT ARE LOCATED BACK TO BACK IN WALLS UNLESS WALLS ARE ACOUSTICALLY RATED TO PREVENT SOUND TRANSMISSION, IN WHICH CASE CONTRACTOR SHALL PROVIDE MINIMUM OF 24" OF SEPARATION BETWEEN BACK TO BACK OUTLET BOXES. PROVIDE FIRE RATED BOXES OR U.L. APPROVED FIRE RATED MATERIAL BETWEEN THE BOXES.	
26. ALL NEW RECEPTACLES, SWITCHES, DATA/TEL BACK BOXES, ETC. SHALL BE FULLY RECESSED IN THE NEW PARTITIONS (EXCEPT FOR EXTERIOR BLOCK WALLS). ALL WIRING SHALL BE FISHED AND CONCEALED WITHIN THE NEW WALLS/PARTITIONS.	

ELECTRICAL SPECIFICATIONS	
GENERAL	
A. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE NEC, NFPA, IBC, UCC, NESC AND LOCAL CODES.	F. LIQUID TIGHT FLEXIBLE METAL CONDUIT IN LENGTHS OF 3' OR LESS WITH APPROVED TYPE FITTINGS SHALL BE USED FOR CONNECTIONS TO VIBRATING EQUIPMENT, MOTORS, AND OTHER OUTLETS WHERE WIRING WILL BE EXPOSED TO WEATHER, MOISTURE OR VIBRATIONS.
B. OBTAIN ALL PERMITS AND APPROVAL FROM AUTHORITIES HAVING JURISDICTION AND PAYING ALL FEES REQUIRED.	G. INSTALL RACEWAYS FROM BOX TO BOX OR TERMINATIONS AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO EFFECT CIRCUITING DESCRIBED WITH CIRCUIT NUMBERS ADJACENT TO EQUIPMENT. GROUPING HOME RUNS OR COMBINING WIRES IN COMMON RACEWAYS WILL BE ALLOWED WITH A MAXIMUM OF THREE SINGLE POLE BRANCH CIRCUITS IN A RACEWAY. INCREASE WIRE SIZES AND RACEWAYS WHERE REQUIRED TO AVOID LOSS OF IMPACTITY AS REQUIRED BY NATIONAL ELECTRIC CODE.
C. SUBMIT SIX(6) SETS OF SHOP DRAWINGS FOR APPROVAL OF THE FOLLOWING: 1. WIRE 2. DEVICES 3. FIRE ALARM 4. CONDUIT 5. LIGHT FIXTURES 6. COORDINATED, DIMENSIONED, MEP FLOOR PLANS.	H. FLEXIBLE METAL CONDUIT WITH APPROVED TYPE FITTING MAY BE USED IN LIMITED LENGTHS FOR CONNECTIONS TO RECESSED FIXTURES WHERE IT IS NECESSARY TO PROVIDE FLEXIBLE CONNECTIONS. IT MAY ALSO BE USED WHERE STRUCTURAL MEMBERS PRECLUDE THE USE OF ELECTRICAL METALLIC TUBING OR CONDUITS.
D. PROVIDE TEMPORARY POWER AS REQUIRED FOR THE PROJECT.	I. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR(4) 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM CONDUIT ENDS BEFORE INSTALLATION AND THROUGLY CLEAN BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN. TERMINALS ON SWITCHES AND RECEPTACLES SHALL NOT BE USED TO "FEED THRU" TO THE NEXT SWITCH OR RECEPTACLE. THE DISCONNECTS OR REMOVAL OF A DEVICE FROM A BOX SHALL NOT INTERFERE WITH OR INTERRUPT THE CONDUCTOR CONTINUITY.
E. ALL WORK SHALL BE DONE UNDER NORMAL WORKING HOURS, UNLESS OTHERWISE NOTED.	J. CONDUCTORS SHALL BE CONTINUOUS FROM ORIGIN TO PANEL OR EQUIPMENT WITHOUT SPLICES. WHERE TAP SPLICES ARE NECESSARY AND APPROVED, THEY SHALL BE MADE WITH SUITABLE CONNECTORS IN JUNCTION BOXES.
F. ALL TELEPHONE/DATA WIRING IS BY THE OWNER. E.C. SHALL COORDINATE WITH OWNER'S REP AND PROVIDE ALL NECESSARY RACEWAYS, BACK BOXES, PULL-STRINGS, ETC. U.O.N.	K. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL CONTROL WIRING. ELECTRICAL CONTRACTOR TO PROVIDE 120V FOR A/C WHEREVER REQUIRED. REFER TO MECHANICAL DRAWING FOR ADDITIONAL INFORMATION.
G. PROVIDE ANY/ALL PROPERLY SIZED THERMAL ELEMENTS IN STARTERS AS REQUIRED.	L. ALL WIRE AND CABLE IMPACTITIES INDICATED ON DRAWINGS ARE BASED ON 75°C TEMPERATURE RATING. ALL LUGS, BREAKERS, SWITCHES AND OTHER TERMINATIONS SHALL HAVE 75°C RATINGS AS A MINIMUM.
H. SECURITY DEVICES AND WIRING TO BE FURNISHED AND INSTALLED BY OTHERS. E.C. TO PROVIDE AND INSTALL J-BOX AND EMPTY CONDUIT WITH PULL STRING WHERE REQUIRED FOR ACCESSIBLE RACEWAY TO HEAD-END EQUIPMENT. ALL POWER TO DEVICES AND EQUIPMENT IS BY E.C. COORDINATE WITH SECURITY VENDOR AND/OR OWNER.	M. BALANCE ALL LOADS BETWEEN PHASES.
GROUNDING:	N. SEPARATE NEUTRALS SHALL BE RUN FOR ALL CIRCUITS UTILIZING SWITCH MODE POWER SUPPLIES (E.G. COMPUTERS, FLUORESCENT LIGHTING, ETC.).
A. GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUITS, SUPPORTS, CABINETS, PANELBOARDS AND SYSTEM GROUNDING NEUTRAL IN ACCORDANCE WITH THE REQUIREMENTS OF NEC. MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMPS SHALL BE OF A TYPE WHICH GROUNDS BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE CONDUIT OR PLASTIC CONDUIT SHALL INCLUDE A GROUND WIRE SIZED IN ACCORDANCE WITH "NEC" TABLE 250-122.	O. ANY COMMUNICATIONS CABLES IN A PLENUM SHALL BE PLENUM RATED. SUPPORTING DEVICES SUCH AS TIES AND WRAPS SHALL ALSO BE PLENUM RATED. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CONTRACTOR SHALL PROVIDE PROOF OF COMPLIANCE WITH REQUIREMENT UPON REQUEST.
B. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL FEEDERS AND BRANCH CIRCUITS. USE GREEN GROUND.	SPECIAL REQUIREMENTS:
IDENTIFICATION:	A. REMOVAL, ALTERATIONS, RELOCATIONS AND CONNECTIONS TO EXISTING SYSTEMS:
A. MODIFY DIRECTORIES OF EXISTING PANELS WHERE CHANGES AND/OR ADDITIONS HAVE BEEN MADE.	AA. CERTAIN REMOVALS AND RELOCATIONS OF EXISTING WORK WILL BE NECESSARY TO THE SATISFACTORY PERFORMANCE OF THE GENERAL WORK. ALL CHANGES CANNOT BE DETAILED ON THE DRAWINGS, BUT SHALL BE TAKEN INTO CONSIDERATION IN MAKING UP THE WORK PROPOSAL. THE SCOPE OF REMOVALS SHALL BE BASED ON ACTUAL FIELD INSPECTIONS.
B. WIRE AND CABLE COLOR CODING: 1. POWER WIRING: CONSISTENT PHASE IDENTIFICATION OF ALL WIRES SHALL BE MAINTAINED AS FOLLOWS: 208/120 VOLT, 3# 60 HZ PHASE A BLACK PHASE B RED PHASE C BLUE 480/277 VOLT, 3# 60 HZ PHASE A YELLOW PHASE B BROWN PHASE C ORANGE NEUTRAL WIRE WHITE GREEN WIRE GREEN ISOLATED GROUND WIRE GREEN WITH YELLOW STRIP	AB. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF EXISTING CIRCUITS AFFECTED BY THIS WORK.
(THIS CHART SHALL BE POSTED ON PANEL BOARDS AND SIMILAR DISTRIBUTION EQUIPMENT)	AC. IN THE EVENT ANY WIRING OR EQUIPMENT TO BE REMOVED IS IN ACTIVE USE AS DETERMINED BY THE OWNER, THIS CONTRACTOR SHALL PROVIDE TEMPORARY WIRING AS MAY BE REQUIRED TO MAINTAIN SUCH USE UNTIL THE PERMANENT RELOCATED WIRING IS INSTALLED.
2. CONTROL WIRES: WIRES OF CONTROL CIRCUITS SHALL BE CONSISTENTLY COLOR CODED TO PERMIT EASY IDENTIFICATION OF CONDUCTORS.	AD. ALL WORK REQUIRING AN OUTAGE OR AN INTERRUPTION OF SERVICE (POWER, TELEPHONE, ETC.) SHALL BE DONE ONLY AT SUCH TIME AS PERMITTED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE OWNER FOR SUCH SHUTDOWNS.
C. PROVIDE IDENTIFICATION OF ALL BRANCH CIRCUIT WIRES IN PULL BOXES AND AT TERMINATIONS WITH PANEL AND CIRCUIT NUMBER.	EXISTING FIRE ALARM SYSTEM
D. PROVIDE PLASTIC ENGRAVED LABELS ON PANELS AND DISCONNECT SWITCHES TO INDICATE POWER SOURCE AND VOLTAGE.	A. FURNISH AND INSTALL ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR CONNECTION OF DEVICES TO AN EXISTING FIRE ALARM SYSTEM PANEL RELOCATED TO THE NEW BUILDING, AS COVERED BY THESE SPECIFICATIONS, TO BE WIRED, CONNECTED AND LEFT IN FIRST CLASS OPERATING CONDITION, ALL EQUIPMENT SHALL BE UL LISTED, CONFORM TO IBC, NFPA CODES 70, 72, 90A, AND 101, AND MEET THE REQUIREMENTS OF THE BUILDING AND ELECTRICAL CODES. THE EXISTING FIRE ALARM PANEL SHALL BE MODIFIED TO ACCOMMODATE ALL NEW DEVICES. SYSTEM MUST BE RE-CERTIFIED AT FINAL INSPECTION. ALL ABANDONED WIRING MUST BE TAGGED OR REMOVED.
PANELBOARDS:	B. FIRE ALARM DEVICES SHALL INCLUDE BUT NOT LIMITED TO ADA COMPLIANT HORN OR SPEAKER/STROBES AS REQUIRED TO MATCH EXISTING DEVICES, MANUAL PULL STATIONS, SMOKE DETECTORS AND DUCT MOUNTED SMOKE DETECTORS. ALL NEW DEVICES SHALL BE LISTED FOR USE WITH THE EXISTING SYSTEM.
A. MODIFY EXISTING PANELBOARDS TO ACCEPT NEW CIRCUIT BREAKERS AS REQUIRED.	C. FURNISH AND INSTALL DUCT SMOKE DETECTORS IN (SUPPLY) AND (RETURN) DUCTS AS SHOWN ON RISER. WIRE INTO FIRE ALARM SYSTEM AND SHUT DOWN UNIT UPON ACTIVATION.
B. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH EXISTING PANELBOARDS AND MATCH AIC RATING.	D. PROVIDE WIRING TO WATER FLOW AND TAMPER SWITCHES. REFER TO FIRE PROTECTION DRAWINGS FOR LOCATIONS.
WIRING DEVICES - PLATES:	E. PROVIDE FULL RISER DIAGRAM SHOWING ALL DEVICES, WIRING, ETC. DEMONSTRATING A COMPLETE SYSTEM.
A. DEVICES SHALL BE "SPEC GRADE" MANUFACTURED BY LEVITON OR EQUAL. ALL DEVICE COVER PLATES SHALL BE STAINLESS STEEL U.O.N. STANDARD DUPLEX RECEPTACLES SHALL BE GROUNDING TYPE, 20 AMP, NEMA 5-20R, BACK AND SIDE WIRED U.O.N., OTHER DEVICES SHALL BE AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE EQUIPMENT ITEM INTENDED TO BE SERVED. WHERE SWITCHES ARE GROUPED, PROVIDE GANGED PLATES.	F. PROVIDE BATTERY CALCULATIONS FOR ALL NEW EQUIPMENT.
LIGHTING FIXTURES AND LAMPS:	CLOSE OUT:
A. LIGHTING FIXTURES SHALL BE FURNISHED AND COMPLETE WITH NECESSARY MOUNTING OR HANGING HARDWARE AND WITH PLASTER FRAMES WHERE REQUIRED. REFER TO LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPE.	A. ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED AND TESTED FOR PROPER OPERATION. AFTER WIRES ARE IN PLACE AND CONNECTED TO DEVICES AND EQUIPMENT, THE SYSTEM SHALL BE TESTED FOR SHORTS AND GROUNDS, ALL HOT AND NEUTRAL CONDUCTORS, IF SHORTED OR GROUNDED, SHALL BE REMOVED AND REPLACED. ALL METERS, INSTRUMENTS, CABLE CONNECTIONS, EQUIPMENT OR APPARATUS NECESSARY FOR MAKING ALL TESTS, SHALL BE FURNISHED BY THIS CONTRACTOR AT HIS OWN EXPENSE.
B. FLUORESCENT BALLASTS SHALL BE ELECTRONIC <10% THD.	B. TOUCH-UP OR REFINISH DAMAGED SURFACES OF FIXTURES AND EQUIPMENT, EXPOSED TO VIEW.
C. THE ELECTRICAL CONTRACTOR IS TO VERIFY CEILING TYPE AND SPACE LIMITATIONS PRIOR TO ORDERING FIXTURES.	C. FURNISH WRITTEN ONE YEAR GUARANTEE FOR ALL ELECTRICAL WORK AND EQUIPMENT.
EQUIPMENT SUPPORTS:	D. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS AT COMPLETION OF PROJECT.
A. THE CONTRACTOR SHALL PROVIDE ALL STRUCTURAL SUPPORTS AND MOUNTING DEVICES FOR THE PROPER ATTACHMENTS OF EQUIPMENT SUPPLIED BY THIS TRADE. THIS SHALL ALSO INCLUDE STARTERS, DISCONNECTS, CONTROLLERS, ETC. FURNISHED BY THE MECHANICAL TRADE.	E. CONTRACTOR SHALL SUBMIT (3) THREE COPIES OF OPERATION AND MAINTENANCE MANUALS.
B. CONDUIT SUPPORTS SHALL BE PLACED AT A MAXIMUM DISTANCE OF TEN (10) FEET APART.	
C. SUPPORT CEILING MOUNTED LIGHT FIXTURES FROM STRUCTURE ABOVE WITH METAL TIE WIRES.	
D. PROVIDE EARTHQUAKE CLIPS AS REQUIRED BY NEC 410-36(B).	
WIRING METHODS:	
A. BRANCH CIRCUIT AND FEEDER WIRING RUN WITHIN THE BUILDING SHALL BE INSTALLED IN ELECTRO-METALLIC TUBING WITH COMPRESSION FITTINGS AND RUN CONCEALED WHERE POSSIBLE. ARMORED CABLE (TYPE MC OR HCF-90) SHALL BE PERMITTED IN CONCEALED AREAS ONLY AND TO THE EXTENT PERMITTED BY CODE. EXPOSED RACEWAY, IF PERMITTED, SHALL BE RUN TRUE, PLUMB AND PARALLEL OR PERPENDICULAR TO BUILDING LINES. EMT WITH RANTIGHT STEEL FITTINGS, 3/4 INCH MINIMUM, SHALL BE USED OUTDOORS; EMT WITH COMPRESSION FITTINGS, 3/4 INCH MINIMUM, SHALL BE USED IN INDOOR UNFINISHED SPACES; SURFACE METAL RACEWAY (WIREMOLD) SHALL BE USED IN INDOOR FINISHED SPACES. U.O.N.	
B. WIRING FOR CONTROLS, COMMUNICATIONS AND OTHER SYSTEMS SHALL BE IN RACEWAY SPECIFIED FOR BRANCH CIRCUITS UNLESS SPECIFICALLY NOTED OTHERWISE.	
C. PROVIDE SEALS FOR RACEWAYS PASSING THROUGH FLOORS, ROOFS AND WALLS.	
D. CONDUCTORS SHALL BE 600 VOLT INSULATION, COPPER, TYPE THHN OR THWN. U.O.N.	
E. E.C. SHALL FURNISH AND INSTALL ALL POWER WIRING AND LOCAL DISCONNECTS (FUSED OR NON-FUSED AS APPLICABLE) AS REQUIRED FOR EQUIPMENT FURNISHED UNDER H.V.A.C., PLUMBING AND GENERAL TRADE SECTIONS, UON.	

TYPICAL MOUNTING HEIGHTS	
12'-0"	EXTERIOR WALL MOUNTED LIGHTING FIXTURES
7'-0"	BATTERY UNITS AND EMERGENCY REMOTE HEADS SHALL BE MOUNTED 1'-0" BELOW FINISHED CEILING TO TOP OF FIXTURE
8'-6"	PENDANT MOUNTED INDUSTRIAL AND STRIP LIGHTING FIXTURES
PER N.F.P.A. & A.D.A. CODE REQUIREMENTS 6'-8" (MIN.)	WALL- MOUNTED CLOCKS, PROGRAM BELLS, BOTTOM OF FIRE ALARM AUDIBLE AND VISUAL DEVICES (OR AS SHOWN ON ARCHITECTURAL DETAILS)
CENTERED ABOVE DOOR OR WINDOW OPENING	WARNING AND SIGNALING FIXTURES/SIGNS.
6'-6"	CENTERLINE OF INTERIOR WALL MOUNTED FIXTURES
6'-6"	TOP OF FLUSH AND SURFACE MOUNTED ELECTRICAL PANELBOARDS, TELEPHONE CABINETS, OR FIRE ALARM CABINETS.
6'-3"	TOP OF BACK-MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS)
6'-0"	TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES, MAGNETIC STARTERS, CONTACTORS.
4'-6"	WALL MOUNTED TELEPHONES AND PAY STATIONS (3'-6" AT HANDICAP LOCATIONS).
4'-0"	CENTER OF WALL MOUNTED ELECTRICAL LIGHT SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, FIRE ALARM PULL STATIONS, GARAGE AREA RECEPTACLES AND TOP OF WIREMOLD.
2'-0"	ELECTRICAL RECEPTACLE WITH ELECTRICAL/MECHANICAL SPACES AND ELEVATOR ROOMS.
1'-6"	ELECTRICAL RECEPTACLES, TELEPHONE OUTLETS, COMPUTER OUTLETS
FINISHED FLOOR	
NOTES:	
1. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY WALL CONSTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.	
2. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWINGS OR SPECIFICATIONS.	
3. VERIFY ALL MOUNTING HEIGHTS WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.	
4. ALL MOUNTING HEIGHTS SHALL COMPLY WITH ANSI A117.1.	

CODE REVIEW:

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J&U Project # 20-063

Mark E. Lonergan, P.E.
No. 10100000000000

PROJECT:

PUBLIC SAFETY BUILDING

5100 E BLACK HORSE PIKE, MAY'S LANDING, NJ 08330

FOR

ATLANTIC CAPE COMMUNITY COLLEGE

5100 E BLACK HORSE PIKE, MAY'S LANDING, NJ 08330

FOR CODE REVIEW: 08/31/2020

REVISIONS:

REVISION NAME	DATE

FOR BID: 08/31/2020

DRAWING TITLE:

ELECTRICAL NOTES & SPECIFICATIONS

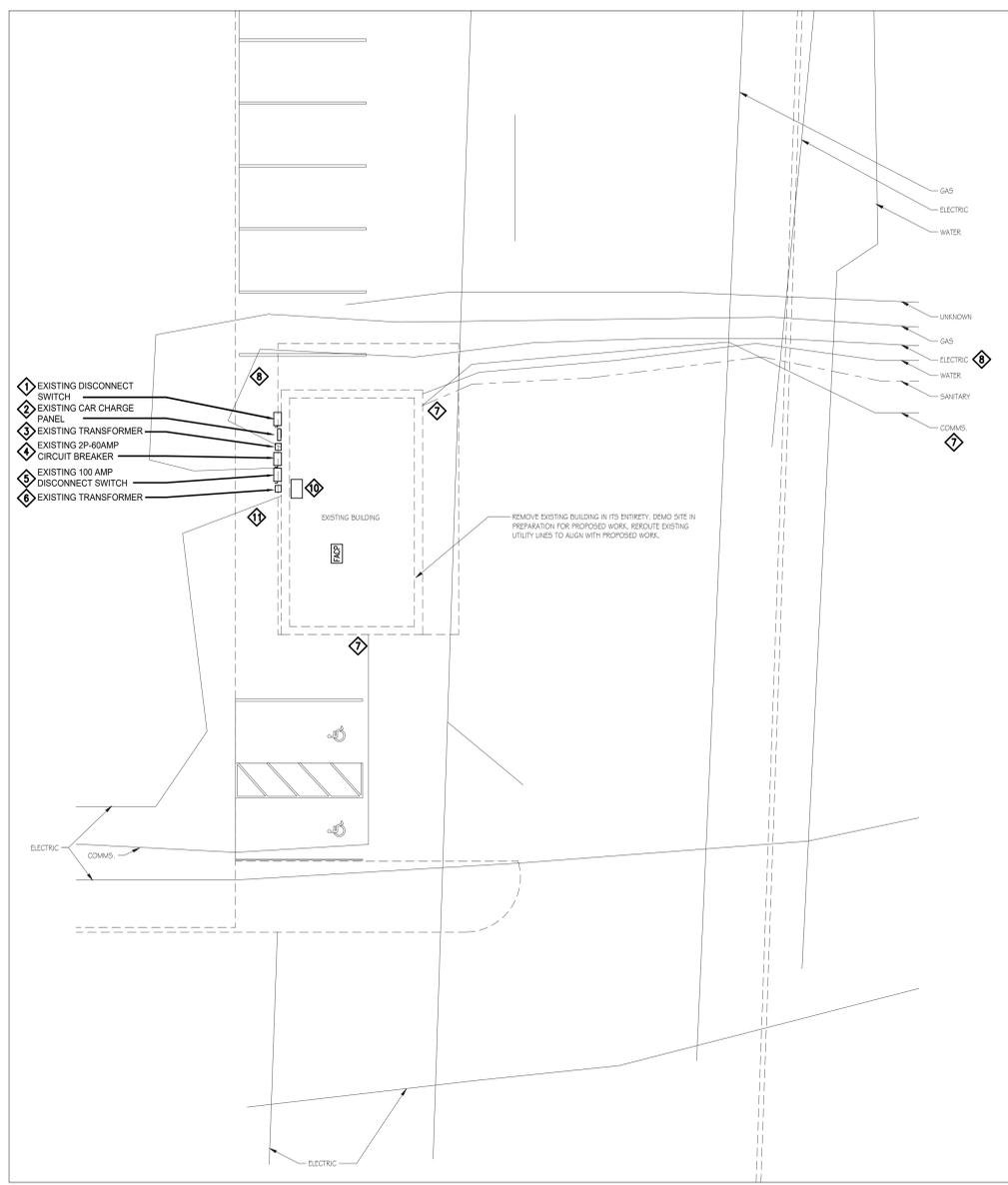
COMMISSION NUMBER:
20U008

AGENCY NUMBER:
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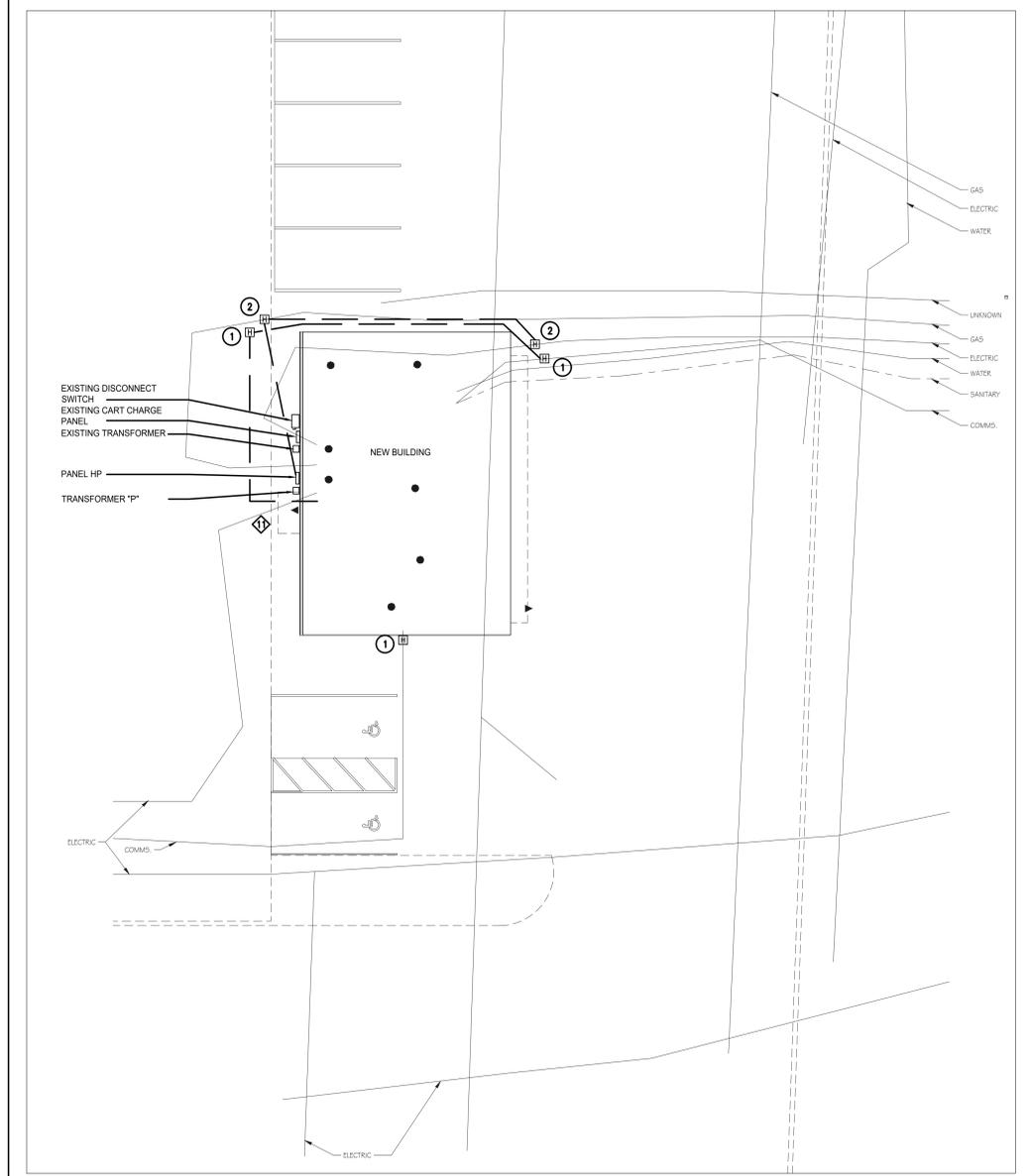
DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:

EO.2



1 ELECTRICAL - SITE PLAN - EXISTING CONDITIONS



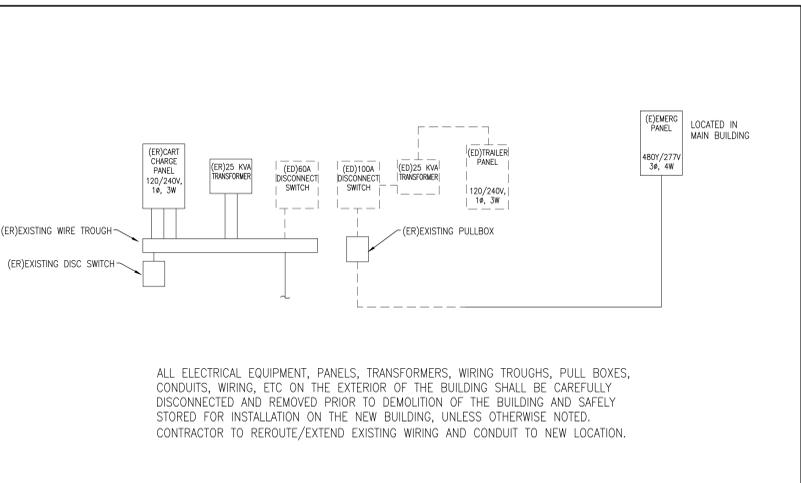
2 ELECTRICAL - SITE PLAN - NEW WORK

ELECTRICAL EXISTING CONDITIONS PLAN NOTES:

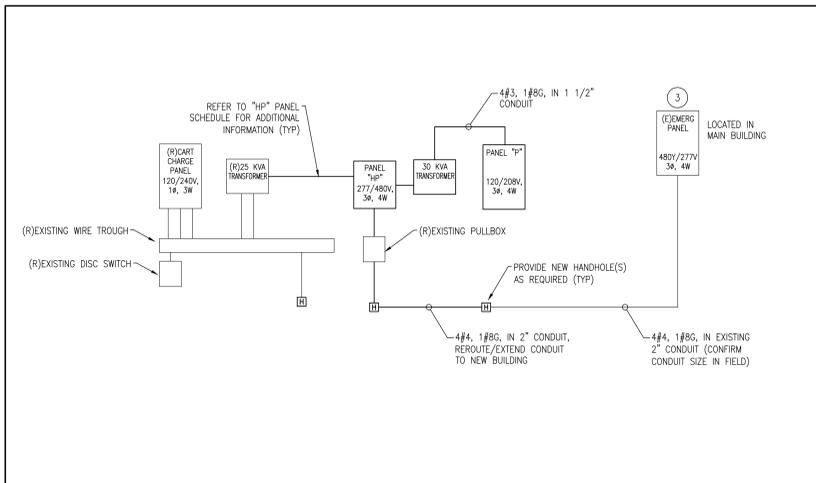
- 1 EXISTING DISCONNECT SWITCH TO BE TEMPORARILY DISCONNECTED AND REMOVED, STORED IN A SAFE PLACE AND REINSTALLED ON NEW BUILDING. EXTEND/REROUTE EXISTING WIRING AND CONDUIT TO NEW LOCATION.
- 2 EXISTING CART CHARGE PANEL TO BE TEMPORARILY DISCONNECTED AND REMOVED, STORED IN A SAFE PLACE AND REINSTALLED ON NEW BUILDING. EXTEND/REROUTE EXISTING WIRING AND CONDUIT TO NEW LOCATION.
- 3 EXISTING CART CHARGE TRANSFORMER TO BE TEMPORARILY DISCONNECTED AND REMOVED, STORED IN A SAFE PLACE AND REINSTALLED ON NEW BUILDING. EXTEND/REROUTE EXISTING WIRING AND CONDUIT TO NEW LOCATION.
- 4 EXISTING 60 AMP DISCONNECT SWITCH TO BE DISCONNECTED AND REMOVED.
- 5 EXISTING 100 AMP DISCONNECT SWITCH TO BE DISCONNECTED AND REMOVED.
- 6 EXISTING TRANSFORMER TO BE DISCONNECTED AND REMOVED.
- 7 EXISTING COMMUNICATIONS UNDERGROUND CONDUIT TO BE INTERCEPTED IN A NEW UNDERGROUND HANDHOLE AND REROUTED TO THE NEW BUILDING TECH CLOSET. OWNER TO REROUTE COMMUNICATION WIRING AS REQUIRED. COORDINATE WORK WITH OWNER IT VENDOR.
- 8 EXISTING POWER UNDERGROUND CONDUIT, DISCONNECT AND REMOVE EXISTING WIRING FROM SECURITY BUILDING TO THE EXISTING PANEL IN THE MAIN BUILDING. INTERCEPT EXISTING UNDERGROUND CONDUIT AND REROUTE TO NEW PANEL HP ON THE EXTERIOR OF THE NEW BUILDING. CONDUIT TO BE REUSED FOR NEW FEEDER, REFER TO SINGLE LINE DIAGRAM FOR MORE INFORMATION. PROVIDE NEW HANDHOLE(S) AS REQUIRED.
- 9 EXISTING FIRE ALARM CONTROL PANEL TO BE DISCONNECTED AND REMOVED BY OWNER'S FIRE ALARM VENDOR AND REUSED IN NEW BUILDING. ALL WORK TO BE COORDINATED WITH OWNER'S FIRE ALARM VENDOR. REFER TO NEW WORK FLOOR PLANS FOR ADDITIONAL INFORMATION.
- 10 EXISTING 120/240 VOLT PANEL TO BE DEMOLISHED WITH BUILDING.
- 11 UNDERGROUND FEEDER FOR SITE LIGHTING TO BE REROUTED TO NEW BUILDING AS REQUIRED. CIRCUIT TO NEW PANEL "P", EXTEND/REROUTE EXISTING WIRING AND CONDUIT TO NEW PANEL.

ELECTRICAL SHEET NOTES:

- 1 EXISTING COMMUNICATIONS UNDERGROUND CONDUIT TO BE INTERCEPTED IN A NEW UNDERGROUND HANDHOLE AND REROUTED TO THE NEW BUILDING TECH CLOSET. OWNER TO REROUTE COMMUNICATION WIRING AS REQUIRED. COORDINATE WORK WITH OWNER IT VENDOR.
- 2 EXISTING POWER UNDERGROUND CONDUIT, DISCONNECT AND REMOVE EXISTING WIRING FROM SECURITY BUILDING TO THE EXISTING PANEL IN THE MAIN BUILDING. INTERCEPT EXISTING UNDERGROUND CONDUIT AND REROUTE TO NEW PANEL HP ON THE EXTERIOR OF THE NEW BUILDING. CONDUIT TO BE REUSED FOR NEW FEEDER, REFER TO SINGLE LINE DIAGRAM FOR MORE INFORMATION. PROVIDE NEW HANDHOLE(S) AS REQUIRED.
- 3 EXISTING EMERGENCY PANEL LOCATED IN THE EXISTING MAIN BUILDING, DISCONNECT AND REMOVE EXISTING FEEDER FROM 2 POLE, 50 AMP CIRCUIT BREAKER SERVING THE BUILDING BEING DEMOLISHED. FURNISH AND INSTALL A NEW 3 POLE, 80 AMP CIRCUIT BREAKER IN SPACE IN EXISTING PANEL AND PROVIDE NEW FEEDER TO NEW SECURITY BUILDING. UTILIZE PORTION OF EXISTING UNDERGROUND CONDUIT FOR NEW FEEDER, REFER TO SITE PLANS AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.



3 ELECTRICAL - POWER RISER DIAGRAM - EXISTING CONDITIONS



4 ELECTRICAL - POWER RISER DIAGRAM - NEW WORK

ALL ELECTRICAL EQUIPMENT, PANELS, TRANSFORMERS, WIRING TROUGH, PULL BOXES, CONDUITS, WIRING, ETC ON THE EXTERIOR OF THE BUILDING SHALL BE CAREFULLY DISCONNECTED AND REMOVED PRIOR TO DEMOLITION OF THE BUILDING AND SAFELY STORED FOR INSTALLATION ON THE NEW BUILDING, UNLESS OTHERWISE NOTED. CONTRACTOR TO REROUTE/EXTEND EXISTING WIRING AND CONDUIT TO NEW LOCATION.

CODE REVIEW:

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J&U Project # 20-063

Mark E. Lonergan, P.E.
No. License # 24C04018500

PROJECT:

PUBLIC SAFETY BUILDING

5100 E BLACK HORSE PIKE, MAY'S LANDING, NJ 08330

FOR

ATLANTIC CAPE COMMUNITY COLLEGE

5100 E BLACK HORSE PIKE, MAY'S LANDING, NJ 08330

FOR CODE REVIEW: 08/31/2020

REVISIONS:

REVISION NAME	DATE

FOR BID: 08/31/2020

DRAWING TITLE:

ELECTRICAL SITE PLANS & DETAILS

COMMISSION NUMBER:

20U008

AGENCY NUMBER:

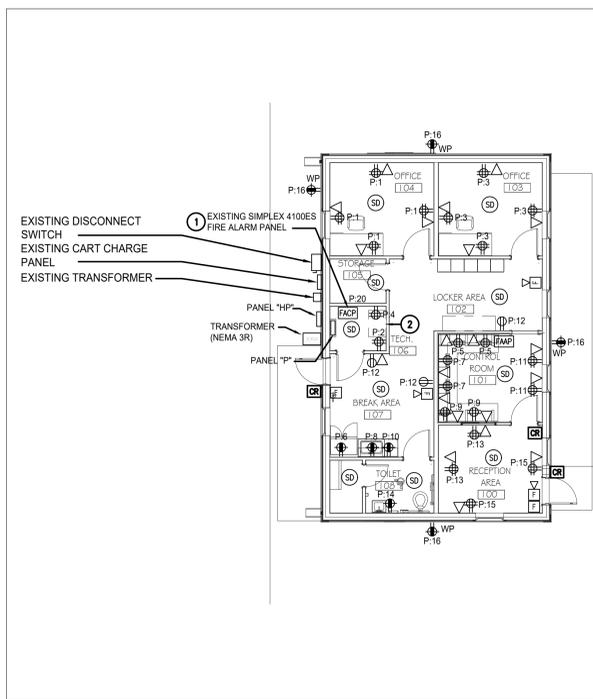
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DO NOT SCALE THE DRAWINGS

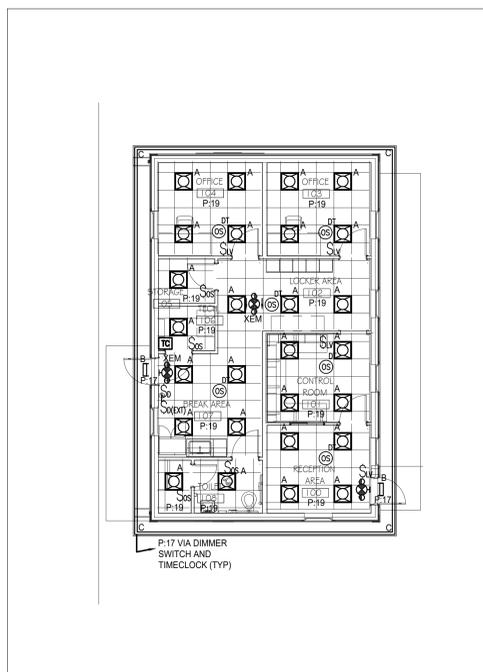
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1 ELECTRICAL - FLOOR PLAN SCALE 1/8" = 1'-0"



2 ELECTRICAL- ROOF PLAN SCALE 1/8" = 1'-0"

ELECTRICAL SHEET NOTES:

- EXISTING FIRE ALARM CONTROL PANEL TO BE DISCONNECTED AND REMOVED. SAFELY STORED AND REINSTALLED IN NEW BUILDING. OWNER'S FIRE ALARM VENDOR TO PERFORM ALL WORK ASSOCIATED WITH CAMPUS WIDE FIRE ALARM NETWORK SYSTEM.
- IT RACK LOCATION. PROVIDE A WALL MOUNTED 13U NETWORK RACK WITH VENTED SIDE PANELS AND GLASS FRONT DOOR. APC NETSHELTER WX SERIES CABINET OR EQUAL. TERMINATE ALL DATA WIRING IN RACK WITH SUFFICIENT SLACK. LABEL WIRING AT BOTH ENDS.

GENERAL POWER NOTES:

- ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE NATIONAL ELECTRICAL CODE, NFPA, UCC AND THE NATIONAL ELECTRIC SAFETY CODE.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS, COLORS AND FINISHES.
- THE CONTRACTOR MUST HAVE THE H.V.A.C., FIRE PROTECTION AND PLUMBING DRAWINGS FOR LOCATIONS OF EQUIPMENT AND CONTROL WIRING REQUIREMENTS. ONLY POWER FEEDER TO MECHANICAL EQUIPMENT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS. FURNISH AND INSTALL ALL CODE REQUIRED DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT UNLESS SPECIFIED ON MECHANICAL DRAWINGS TO BE SUPPLIED BY MANUFACTURER. PROVIDE FUSED SWITCHES WHEREVER MANUFACTURER REQUIRES THEM.
- ALL WIRE SHALL BE COPPER WITH THHN OR THWN INSULATION RATED AT 600 VOLTS U.O.N., MINIMUM #12 AWG FOR POWER CIRCUITS AND MINIMUM #14 AWG FOR SIGNAL AND CONTROL CIRCUITS. NEUTRALS SHALL NOT BE SHARED. CONDUCTOR SIZES (PHASE AND GROUND) SHALL BE INCREASED DUE TO DERATING AND VOLTAGE DROP REQUIREMENTS AS NECESSARY. USE A MINIMUM #10 AWG FOR 20 AMPERE CIRCUITS AS FOLLOWS: 120V. - OVER 120', 208V. - OVER 210', 277V. - OVER 279', 480V. - OVER 484' (BASED ON LOAD AT MIDPOINT OF BRANCH CIRCUIT RUN @ 60% OF RATED LOAD). USE #8 FOR 20A CIRCUITS @ 277V. FROM 211' TO 334', AND 20A CKTS @ 120V. FROM 191' TO 301'. (FOR #8 PROVIDE AND INSTALL SPLICE/TAP J-BOX BEFORE CONNECTION TO LOAD AND TRANSFER TO #12AWG FOR CONNECTION TO DEVICE TERMINALS).
- ALL NEW ELECTRICAL SYSTEMS, INCLUDING LIGHTING, CONDUIT, PANELS, ETC., SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.
- RELOCATE EXISTING JUNCTION BOXES, PULL/SPLICE BOXES, ETC. WHICH REQUIRE ACCESS THAT WILL BE BLOCKED BY NEW CONSTRUCTION (MECHANICAL AND ELECTRICAL). CONTRACTOR SHALL COORDINATE WITH FIELD CONDITIONS AND OTHER TRADES FOR NEW OR EXISTING ELECTRICAL ITEMS REQUIRING ACCESS LOCATED OVER G.W.B. OR OTHER INACCESSIBLE CEILINGS. PROVIDE ACCESS PANELS TO BE LOCATED IN COORDINATION WITH ARCHITECT AND INSTALLED BY G.C.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO SUBMIT MEP COORDINATION DRAWINGS AS EARLY AS POSSIBLE IN THE CONSTRUCTION PERIOD.
- PROVIDE UPDATED PANEL SCHEDULES FOR ALL PANELS IDENTIFYING ALL NEW AND EXISTING CIRCUITS, WHERE APPLICABLE. PANEL SCHEDULE DIRECTORY SHALL INCLUDE DEVICE NAME (LIGHTING, RECEPTACLES, EQUIPMENT, ETC.) AND ROOM NUMBERS BEING SERVED. LABEL ALL CIRCUIT BREAKERS NOT BEING USED AS "SPARE".
- ALL FIRE ALARM WORK MUST BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF NFPA 72 AND IBC NJ. CONTRACTOR TO PROVIDE ALL SHOP DOCUMENTATION IN ACCORDANCE WITH IBC NJ 907.1.1 & NFPA 72.
- ALL SWITCHES AND RECEPTACLES SHALL BE LABELED WITH CIRCUIT NUMBER(S) AND PANEL OF ORIGIN. UTILIZE AN ELECTRONIC LABEL MAKER (E.G. DYMO OR EQUAL) WITH BLACK LETTERS/NUMBERS ON A CLEAR BACKGROUND.
- APPLY U.L. APPROVED FIRESTOPPING ("3M" FIRE STOP SEALANT 2000 AND/OR "3M" FIRE BARRIER CP25 WB) TO ALL PENETRATIONS OF FIRE RATED FLOORS, WALL AND CEILING ASSEMBLIES. RATING MUST RE-ESTABLISH THE ORIGINAL FIRE RESISTANCE.
- ENSURE CONTINUITY OF POWER TO ALL EXISTING FIXTURES AND DEVICES SCHEDULED TO REMAIN. RE-CIRCUIT TO NEW PANEL AS REQUIRED, PROVIDE NEW BREAKERS, WIRING, CONDUIT, ETC.
- FIRE ALARM WORK TO BE DONE BY OWNER'S FIRE ALARM VENDOR. ALL WORK TO BE COORDINATED WITH THE OWNER AND THE OWNER'S VENDOR.

GENERAL LIGHTING NOTES:

- REFER TO DRAWINGS E0.1 AND E0.2 FOR SYMBOLS, ABBREVIATIONS, NOTES AND SPECIFICATIONS.
- COORDINATE EXACT RECEPTACLE, LIGHT FIXTURE, AND DEVICE LOCATIONS IN ALL ROOMS WITH ARCHITECT AND ARCHITECTURAL DOCUMENTS PRIOR TO INSTALLATION.
- COORDINATE FINAL ROUGH-IN LOCATIONS OF DEVICES, OUTLET/JUNCTION BOXES, ETC. WITH EQUIPMENT AND FURNITURE TO BE SERVED PER EQUIPMENT AND FURNITURE MANUFACTURER'S REQUIREMENTS AND BASED UPON APPROVED SHOP DRAWINGS.
- EXTERIOR RECESSED TYPE "C" FIXTURES TO BE CONTROLLED VIA TIMELOCK AND DIMMER SWITCH. TIMELOCK TO BE PROGRAMMABLE 7 DAY TIMELOCK WITH HOLIDAY OVER RIDE AND ASTRONOMIC OPTION.

BUS SIZE: 100 MAIN CIRCUIT BREAKER 80		PANEL HP (NEW)										PANEL TYPE: NEMA 3R SURFACE					
LOCATION: EXTERIOR		480/277V, 3 PH, 4W										MOUNTING: SURFACE					
FED FROM: EMERG PANEL		AIC RATING: 42000 AMPS FULLY RATED															
CKT NO.	CIRCUIT DESCRIPTION	LOAD VA	BREAKER POLE SIZE TYPE	CIRCUIT WIRING			PHASE			CIRCUIT WIRING			BREAKER POLE SIZE TYPE	LOAD VA	CIRCUIT DESCRIPTION	CKT NO.	
				No.	WIRE	COND	A	B	C	No.	WIRE	COND					
1	CART CHARGE PANEL VIA X-FORM	12000	2 80	3	6	6	1	20713					50	3	9576	PANEL P VIA X-FORM	4
5		1 20	1 20										20	1	7172		6
7		1 20	1 20										20	1			8
9		1 20	1 20										20	1			10
11		1 20	1 20										20	1			12
13		1 20	1 20										20	1			14
15		1 20	1 20										20	1			16
17		1 20	1 20										20	1			18
				TOTAL (PHASE):			20713			21576			7172				
				TOTAL CONNECTED LOAD:			49.5 KVA			59.6 AMPS							
<p>CIRCUIT BREAKER TYPES</p> <p>AF ARC FAULT CIRCUIT BREAKER GF GROUND FAULT CIRCUIT BREAKER AG ARC FAULT & GROUND FAULT BKR ST SHUNT TRIP CIRCUIT BREAKER 100% 100% RATED CIRCUIT BREAKER</p>																	
<p>NOTES</p> <p>1 ALL BUSING TO BE COPPER 2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE 3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING 4 ARC FAULT 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS 5 A 'BLANK' SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.</p>																	

BUS SIZE: 100 MAIN CIRCUIT BREAKER 100		PANEL P (NEW)										PANEL TYPE: NEMA 1 SURFACE								
LOCATION: TECH CLOSET		208/120V, 3 PH, 4W										MOUNTING: SURFACE								
FED FROM: PANEL HP		AIC RATING: 22000 AMPS FULLY RATED																		
CKT NO.	CIRCUIT DESCRIPTION	LOAD VA	BREAKER POLE SIZE TYPE	CIRCUIT WIRING			PHASE			CIRCUIT WIRING			BREAKER POLE SIZE TYPE	LOAD VA	CIRCUIT DESCRIPTION	CKT NO.				
				No.	WIRE	COND	A	B	C	No.	WIRE	COND								
1	RECEPTACLES 104	1440	1 20	2	12	12	3/4	1800				2	12	12	3/4	20	1	360	TECH RECEPTACLE	2
3	RECEPTACLES 103	1440	1 20	2	12	12	3/4	1800				2	12	12	3/4	20	1	360	TECH RECEPTACLE	4
5	RECEPTACLES 101	720	1 20	2	12	12	3/4			1220		2	12	12	3/4	20	1	360	REFNG RECEPTACLE	6
7	RECEPTACLES 101	720	1 20	2	12	12	3/4	1620				2	12	12	3/4	20	1	360	MICROWAVE RECEPTACLE	8
9	RECEPTACLES 101	720	1 20	2	12	12	3/4	1080				2	12	12	3/4	20	1	360	COUNTER RECEPTACLE	10
11	RECEPTACLES 101	720	1 20	2	12	12	3/4			1260		2	12	12	3/4	20	1	360	RECEPTACLES 102, 107	12
13	RECEPTACLES 100	720	1 20	2	12	12	3/4	900				2	12	12	3/4	20	1	360	RECEPTACLES 118	14
15	RECEPTACLES 100	720	1 20	2	12	12	3/4	1440				2	12	12	3/4	20	1	720	EXTERIOR RECEPTACLES	16
17	EXTERIOR LIGHTING	1376	1 20	2	12	12	3/4			1376						20	1		SPARE	18
19	INTERIOR LIGHTING	1053	1 20	2	12	12	3/4	1053								20	1		SPARE	20
21	SPARE	1 20	1 20						600			2	12	12	3/4	15	1	600	CONDENSATE PUMPS	22
23	SPARE	1 20	1 20						1000			2	12	12	3/4	15	1	1000	EUH-1	24
25	SPARE	1 20	1 20					1440				2	12	12	3/4	20	2	1440	EJECTOR PUMP	26
27	SPARE	1 20	1 20					1440				2	12	12	3/4	20	2	1440		28
29	SPARE	1 20	1 20						200			2	12	12	3/4	15	1	200	EF-1, EF-2	30
31	SPACE	1	1					1500				2	12	12	3/4	20	2	1500	DWH 1	32
33	SPACE	1	1					1500				2	12	12	3/4	20	2	1500		34
35	SPACE	1	1					400		400		2	12	12	3/4	15	2	400	AC UNITS 1-6	36
37	SPACE	1	1					400				2	12	12	3/4	15	2	400		38
39	SPACE	1	1					1716		1716		2	10	3/4	25	2	1716	HP-1	40	
41	SPACE	1	1									2	10	3/4	25	2	1716		42	
				TOTAL (PHASE):			8713			9576			1716							
				TOTAL CONNECTED LOAD:			25.5 KVA			70.8 AMPS										
<p>CIRCUIT BREAKER TYPES</p> <p>AF ARC FAULT CIRCUIT BREAKER GF GROUND FAULT CIRCUIT BREAKER AG ARC FAULT & GROUND FAULT BKR ST SHUNT TRIP CIRCUIT BREAKER 100% 100% RATED CIRCUIT BREAKER</p>																				
<p>NOTES</p> <p>1 ALL BUSING TO BE COPPER 2 ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE 3 CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PER THE SPECIFICATIONS AND NOTIFY THE ENGINEER PRIOR TO PURCHASING 4 ARC FAULT 30A CIRCUIT BREAKER AND EXTERNAL MOUNTED TVSS FOR ALL EMERGENCY PANELBOARDS 5 A 'BLANK' SPACE UNDER BREAKER TYPE DENOTES A STANDARD CIRCUIT BREAKER.</p>																				

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PROJECT:

PUBLIC SAFETY
 BUILDING

5100 E BLACK HORSE PIKE, MAYS
 LANDING, NJ 08330

FOR:

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NO.	REVISION NAME	DATE

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ELECTRICAL
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DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:
 E1.1